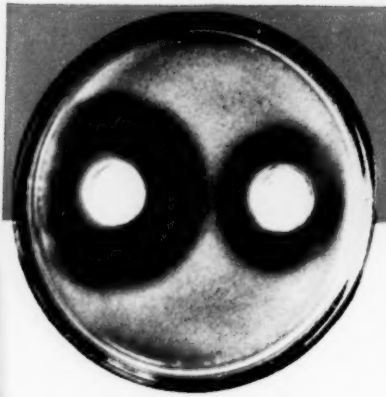
MODERN MEDICINE

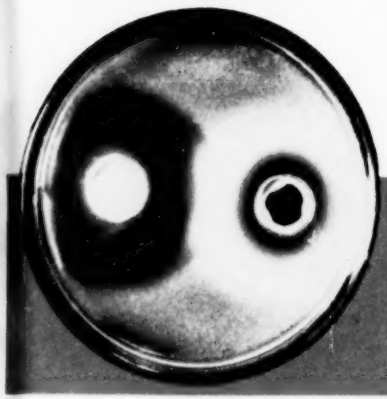
The Journal of Diagnosis and Treatment



PANSULFA shows superior bacteriostatic action over the single sulfonamide (sulfadiazine).

Staph. aureus

The difference you see here...is the difference you can expect for patients



Staph. aureus

PANSULFA shows superior bacteriostatic action over a typical triple sulfonamide (sulfadiazine, sulfamerazine, sulfamethazine).

And Another Big Difference You Can Expect . . .
an easy mind about possible toxic effects . . . less danger of crystalluria or renal damage. Sulfacetamide is the least toxic sulfonamide reported in Lehr's clinical studies.*

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SULFACETAMIDE
Sulfadiazine
Sulfamerazine

SUSPENSION • TABLETS Each teaspoonful or tablet contains 0.5 Gm. (7½ grs.) of the rapidly soluble sulfonamides (ratio 1:1:1).

Also **PANSULFA with PENICILLIN** Each tablet contains 100,000 units of Crystalline Penicillin Potassium G in addition to the above formula.

Merrell
1828
CINCINNATI
New York • Toronto

Trade-mark "Pansulfa"

*See Lehr, D., N. Y. St. J. Med. 11:1361, 1950

TO PROMOTE EARLY HEALING IN CHRONIC VARICOSE ULCERS

Tryptar

The Armour Laboratories brand of Purified Crystalline Trypsin

In varicose ulcers, the immediate response to Tryptar is most satisfactory[1] . . . in many cases, complete healing is obtained.

Tryptar introduces a new therapeutic principle of selective physiologic debridement. Without attacking normal tissue, Tryptar digests only necrotic tissue and pyogenic membranes, induces satisfactory granulation and promotes healing within a short time . . . even in varicose ulcers of many years' duration. Applied either as a powder or as a wet dressing.

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1. Reiser, H. G., et al.: Arch. Surg. 63: 568-575 (Oct.) 1951.

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-world-wide dependability-

PHYSIOLOGIC THERAPEUTICS THROUGH BIORESEARCH

Prove it to Yourself!

—that Seamless PRO-CAP is Less Irritating

MAKE THIS IRRITATION PATCH TEST

Why Seamless Asks You to Make This Adhesive Plaster Test

● **Four** years of actual use on thousands of patients, and enthusiastic comment by doctors and hospitals, prove that Seamless Pro-Cap is definitely less irritating. Now we want *you* to *prove it to yourself!*

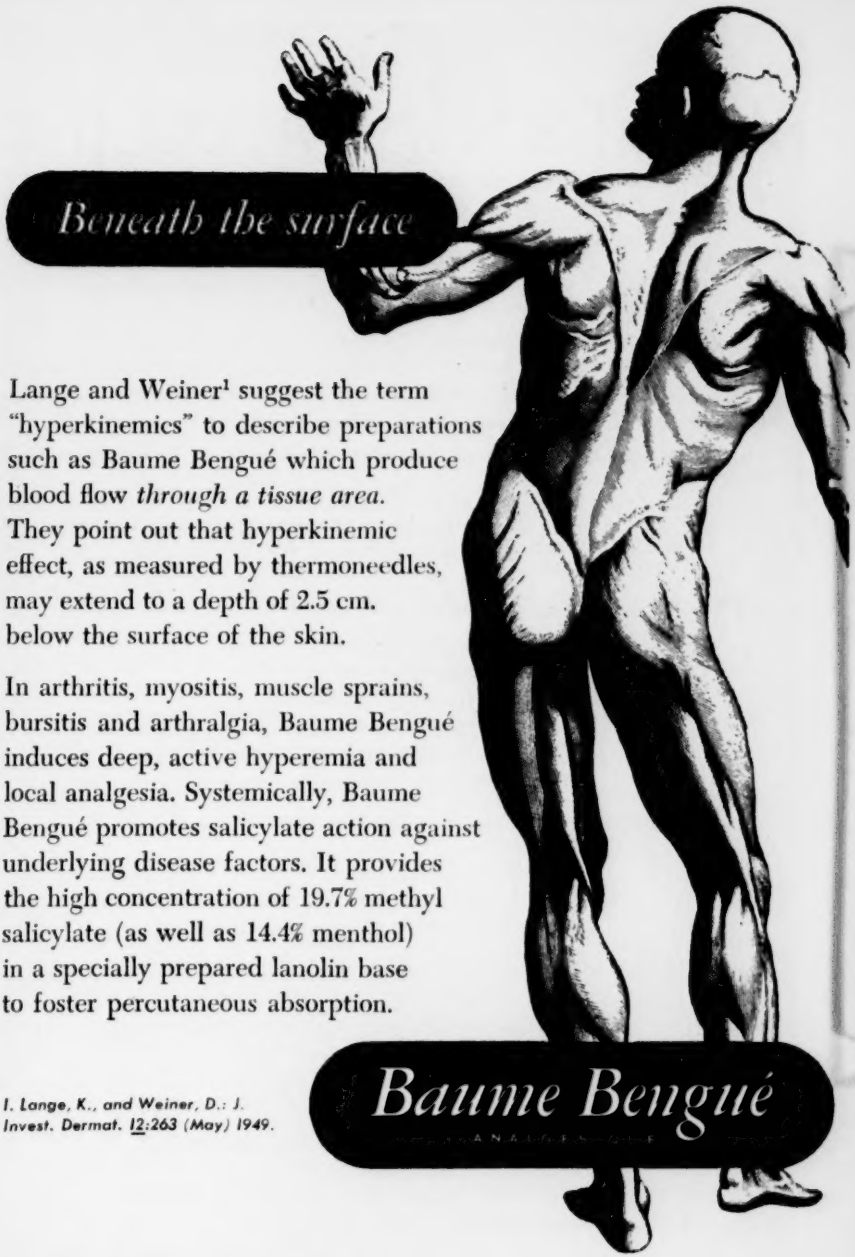
There is no mystery why Seamless Pro-Cap is less irritating. Seamless Pro-Cap adhesive mass contains the fatty acid salts heralded in recent Medical Journals. The fatty acid salts used, zinc propionate and zinc caprylate, are found exclusively in Seamless Pro-Cap Adhesive Plaster, both Regular and Service Weight.

Count these 6 Important Advantages **(1) Little or no skin irritation. (2) Little or no itching. (3) Sticks easily—does not creep or curl. (4) Less skin maceration. (5) Little or no slimy deposit. (6) Longer shelf life. Fresh and tacky up to 2 years.**

Write for FREE Spool of Pro-Cap. Make the patch test. Prove to yourself that Seamless Pro-Cap causes less skin irritation . . . you'll never go back to ordinary plaster!

Note this dramatic unretouched photograph. Tape application removed after 24 hours. Note severe reaction from ordinary hospital adhesive (top). Virtually no reaction from Seamless Pro-Cap (bottom). Make the irritation test. Prove it to yourself!

SEAMLESS



Lange and Weiner[1] suggest the term "hyperkinemics" to describe preparations such as Baume Bengué which produce blood flow *through a tissue area.* They point out that hyperkinemic effect, as measured by thermoneedles, may extend to a depth of 2.5 cm. below the surface of the skin.

In arthritis, myositis, muscle sprains, bursitis and arthralgia, Baume Bengué induces deep, active hyperemia and local analgesia. Systemically, Baume Bengué promotes salicylate action against underlying disease factors. It provides the high concentration of 19.7% methyl salicylate (as well as 14.4% menthol) in a specially prepared lanolin base to foster percutaneous absorption.

1. Lange, K., and Weiner, D.: J. Invest. Dermat. 12:263 (May) 1949.

Thos. Leeming & Co. Inc. 155 East 44th Street, New York 17, N.Y.

MODERN MEDICINE

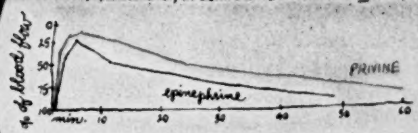
THE JOURNAL OF DIAGNOSIS AND TREATMENT

Published twice monthly by Modern Medicine of Minneapolis, Minn., at Hart Publications, Inc., of Long Prairie, Minn. Acceptance under section 34.64, P. L. & R., authorized.

Laboratory Finding

Privine® (naphazoline) hydrochloride is measurably more potent as a vasoconstrictor than even epinephrine (once considered to be the most effective compound known), comparing equal doses and concentrations.[1]

1. Maier, R., and Mueller, R.: Schweiz. med. Wchnschr. 71:554, 1941



Comparative effects upon the flow of blood after application of Privine & Epinephrine. Residual perfusion flow after Privine is approx. 18% as contrasted to 25% for epinephrine. Significance: the vessels are one-third further constricted by Privine than by epinephrine.

are ⅓ further constricted by Privine than by epinephrine

CLINICAL FACT

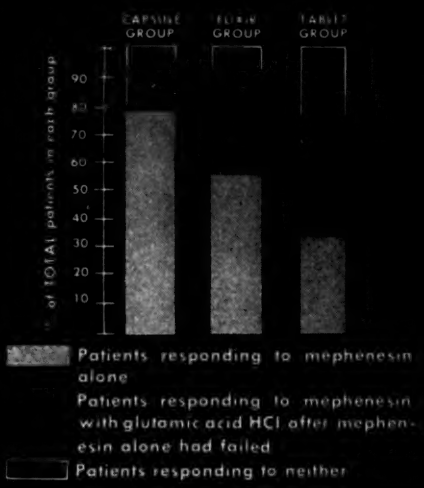
Privine is a "potent vasoconstrictor"[2] one that is unsurpassed in providing marked relief from nasal congestion.

2. Jenkins, G. L. and Hartung, W. H.: The Chemistry of Organic Medicinal Products, ed. 3, 1949, New York, John Wiley & Sons, Inc.

Privine

MODERN MEDICINE

THE JOURNAL OF DIAGNOSIS AND TREATMENT



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Glutamic Acid
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"Until this combination therapy has failed, mephenesin should not be discarded as ineffectual."

SUPPLIED:

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pains

of angina pectoris
and other vascular spasms are

preventable

with

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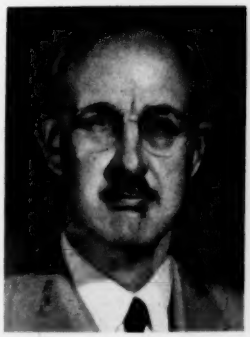
TABLE *of* CONTENTS

for
January 15
1952

Modern Medicine
Vol. 20, No. 2



THE MAN ON THE COVER is Dr. Emile Holman, San Francisco, Professor and Executive Head of the Department of Surgery at Stanford University and Chief Surgeon of Lane and Stanford University hospitals. In 1918, Dr. Holman was awarded the Medaille de Roi Albert and in 1930 he received the Samuel D. Gross Prize from the Philadelphia Academy of Surgery for his original research in aneurysms. A past president of the San Francisco Surgical Society, Dr. Holman is a fellow of the American College of Surgeons and member of numerous medical societies including the International Society of Surgery, American Association for Thoracic Surgery, and the Society for Experimental Biology and Medicine. He is author of the book, *Arteriovenous Aneurysm*, and a frequent contributor to medical journals. On page 86 appears the report, "Surgical Therapy of Constrictive Pericarditis," based on an article by Dr. Holman published originally in *Journal-Lancet*.

Contents for January 15 1952

CONTINUED

In treating para-nasal infection
ARGYROL promotes recovery without

CNS stimulation or rebound congestion

The decongestive, demulcent and bacteriostatic properties of ARGYROL constitute the basis of effective therapy without producing side effects which delay eventual recovery and restoration of normal function.

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Decongestion Without Dysfunction

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3. The nasal cavities . . . with 10 per cent ARGYROL by nasal tamponage.

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Contents for January 15 1952

CONTINUED

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LETTER FROM THE EDITOR

Dear Reader:

Back in the twenties the son of a Danish army officer was drowned in the Kattegat near Copenhagen. The officer, Col. Holger Nielsen, thought a better method of artificial respiration might have saved his son's life. For five years he studied physiology and then, using his 12-year-old nephew as a subject, he developed a resuscitation technic that is now taught throughout the seagoing lands of northern Europe.

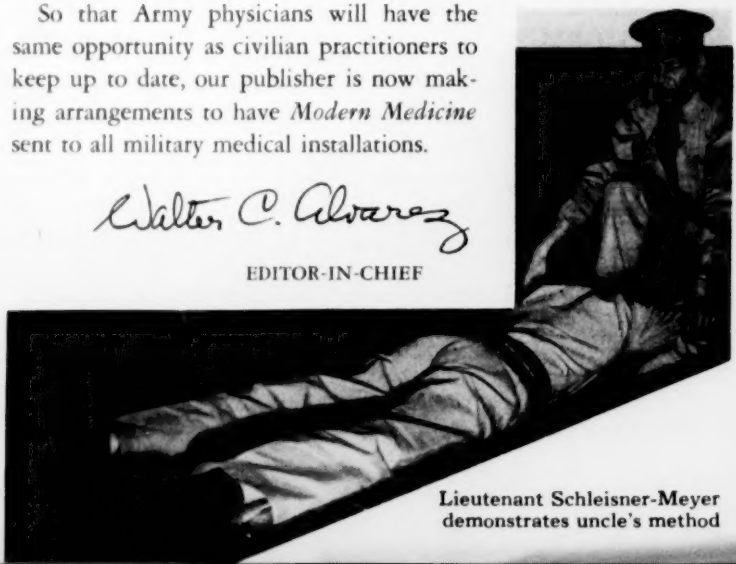
Just before Christmas the nephew, Steen Schleisner-Meyer, now a doctor and a lieutenant in the Royal Danish Air Force, entered a class for aviation medical examiners at the U.S. Air Force School of Aviation Medicine at Randolph Field, Tex. Newspaper accounts said that he was amazed to find that most instructors had never heard of his uncle's technic.

Readers of *Modern Medicine* not only were acquainted with the method but had been presented with a detailed, illustrated description of the technic last February, and in April were given a comparison of the advantages of the Holger Nielsen method with other systems of resuscitation. This is just one more instance of our constant endeavor to keep physicians informed of the developments in medicine.

So that Army physicians will have the same opportunity as civilian practitioners to keep up to date, our publisher is now making arrangements to have *Modern Medicine* sent to all military medical installations.

Walter C. Alvarez

EDITOR-IN-CHIEF



Lieutenant Schleisner-Meyer demonstrates uncle's method

to keep the hypertensive patient calm . . .

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for use in patients with smooth-muscle spasm.

'Eskaphen B' T. M. Reg. U. S. Pat. Off.

Correspondence

Communications from the readers of MODERN MEDICINE *are always welcome. Address communications to The Editors of* MODERN MEDICINE, *84 South 10th St., Minneapolis 3, Minn.*

Causes of Renal Failure

TO THE EDITORS: After reading the review of Dr. Francis D. Murphy's article on acute renal insufficiency (*Modern Medicine,* Sept. 15, 1951, p. 69), one is left with the impression that glomerulonephritis and lower nephron nephrosis are the only two lesions to be considered when dealing with oliguria, anuria, and azotemia. There are other conditions to be thought of when dealing with acute kidney failure.

Though the following may occur infrequently, nonetheless they are to be considered if one is to have a proper understanding of the underlying renal disorder:

- Bilateral cortical necrosis should always be suspected when dealing with kidney failure occurring during the last trimester of pregnancy or shortly after delivery. This usually fatal lesion has also been known to follow a variety of infectious or toxic conditions.
- Necrotizing renal papillitis occurs usually as a complication of diabetes mellitus. This peculiar form of pyelonephritis, with massive necrosis of the renal pyramids, is also found occasionally in the nondiabetic patient, usually as a complication of urinary tract obstruction. The symptoms may be acute, with a fulminating course ending in death within a few days.
- When dealing with an acute renal lesion of unexplained etiology, periarteritis nodosa must be kept in mind. This disease process has been more prevalent in recent years. The renal picture is like that of acute glomerulonephritis.
- With the wide employment of low-salt diets in congestive failure and hypertension and with the often excessive use of dextrose in water for postoperative care, renal insufficiency from this cause will be encountered more frequently. The low-salt syndrome must be looked for specifically. The mechanisms leading to the development of this form of renal insufficiency are not known.
- Prerenal azotemia is a condition due to retention of nitrogenous end products not caused by disease of the kidneys. Tissue or blood destruction and shock need not be present. The common denominator in this disturbance appears to be diminished blood flow through the kidneys.

Thus, it is apparent that acute renal insufficiency may occur under a variety of circumstances. This subject matter was more fully discussed in my article, "Acute Renal Failure" (*Am. Pract.* 2:45-50, 1951).

JOSEPH G. WEINER, M.D.

Philadelphia

Glandular Factors in Alcoholism

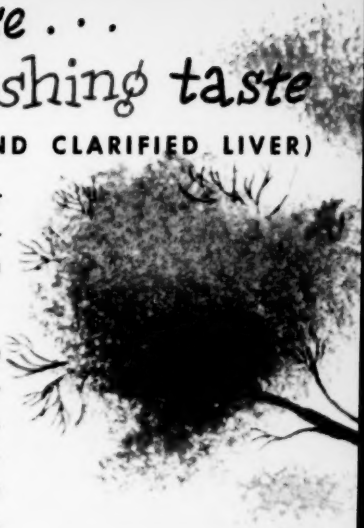
TO THE EDITORS: I should like to comment on Dr. K. R. Beutner's letter on the treatment of alcoholism (*Modern Medicine,* Aug. 1, 1951, p. 18). Although my own work is entirely apart from that therapeutic field I may be able to make some constructive comment on [1] Dr.

(Continued on page 23)


for a
response . . .

for a fresh response . . . and a refreshing taste

(CRYSTALLINE B_{12} AND CLARIFIED LIVER)



For the many anemic patients who show poor response or refractoriness to iron, liver or vitamin B_{12} alone, Armatinic Liquid offers a fresh, vigorous hemopoietic response.

Armatinic Liquid — a new product of The Armour Laboratories — provides critical factors for an effective hemopoietic response. Armatinic Liquid is well tolerated . . . pleasant-tasting . . . economical . . . and may be given to children as well as to adults. This comprehensive approach to blood regeneration produces gratifying improvement in the blood picture and in symptomatic manifestations.

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Vitamin B_{12} Crystalline.....30.0 mcg.
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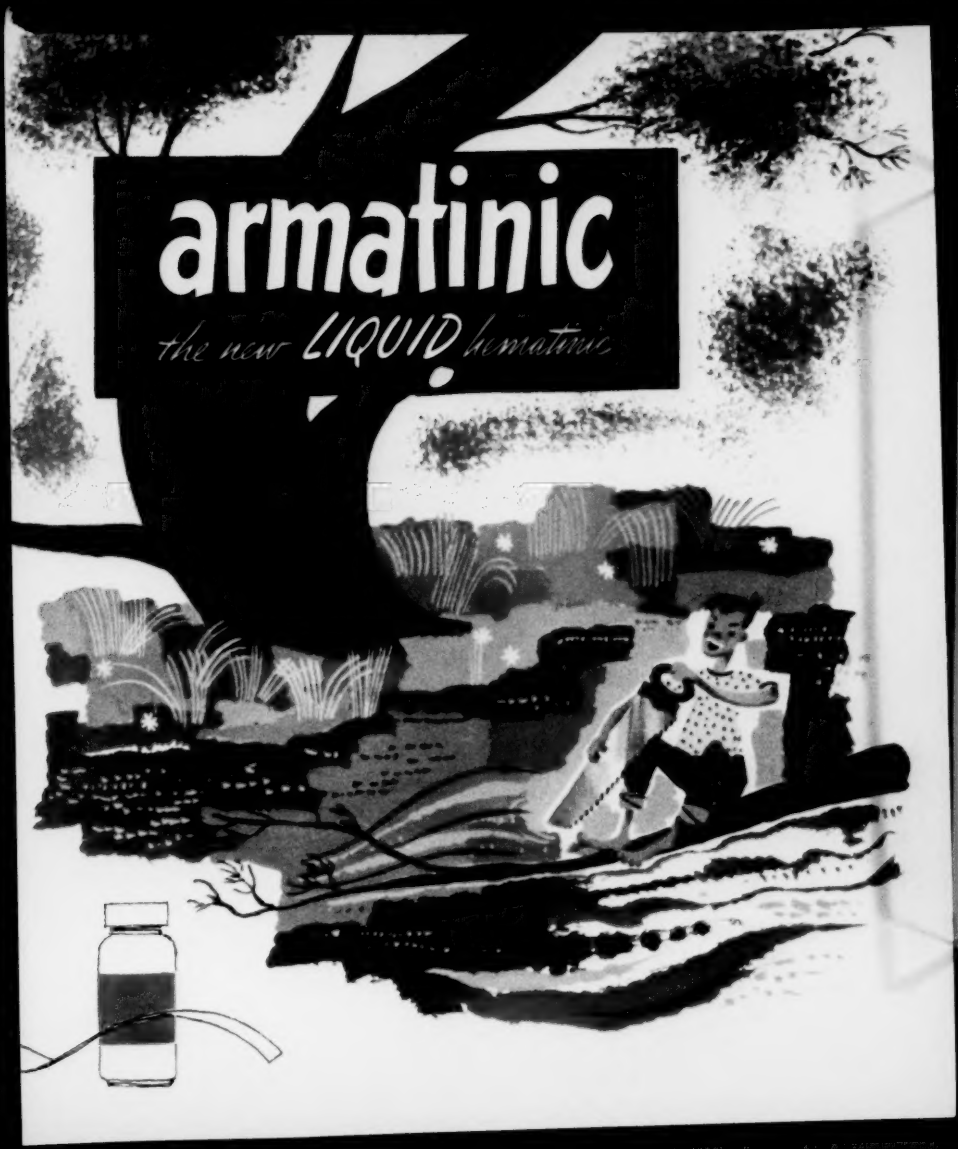
PHYSIOLOGIC THERAPEUTICS THROUGH BIORESEARCH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PHYSIOLOGIC THERAPEUTICS THROUGH BIORESEARCH

LITHO IN U. S. A.

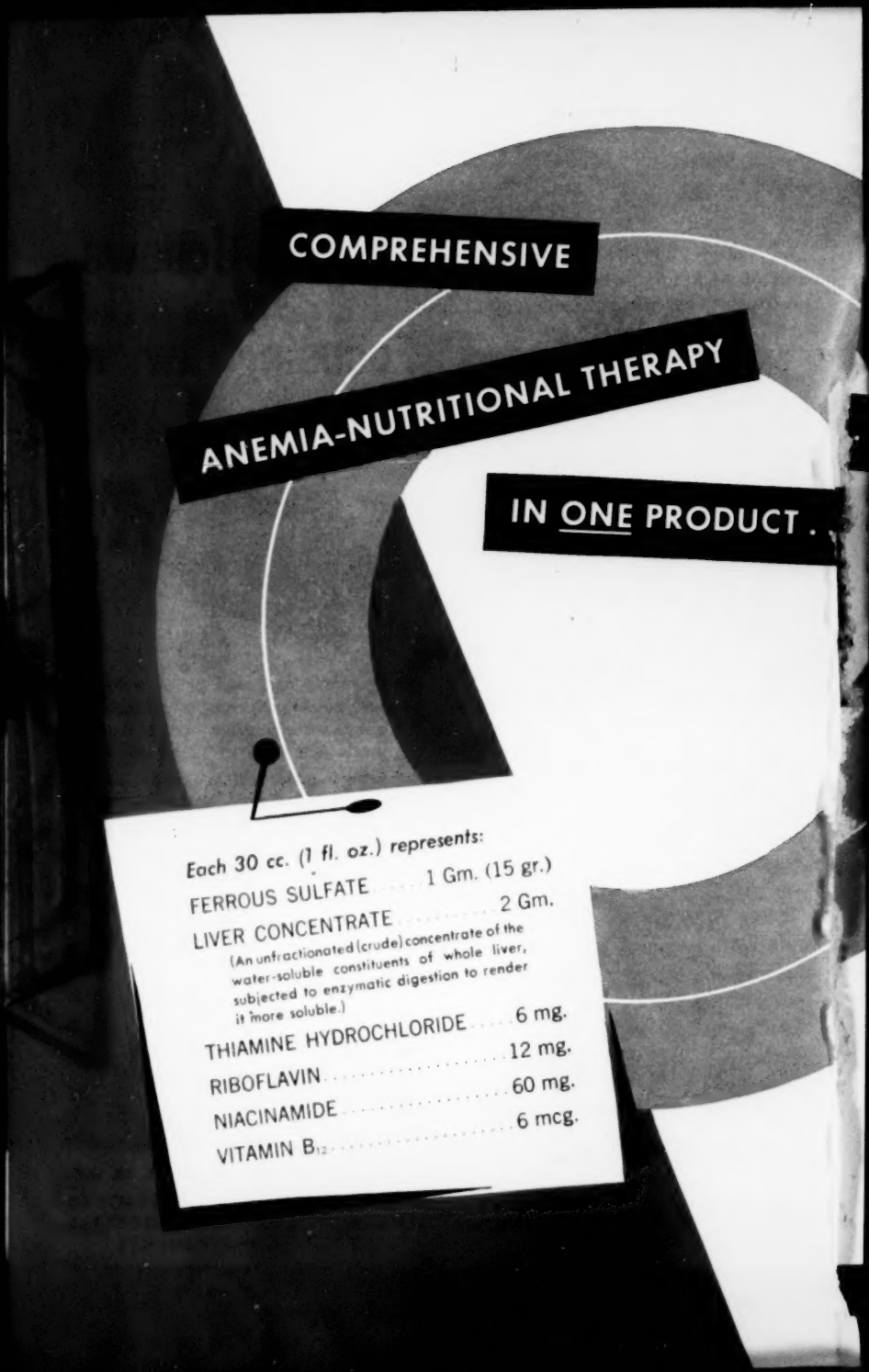
Beutner's citations of the ACE treatment schedule advocated by Drs. Harold W. Lovell and John W. Tintera (*Modern Medicine,* May 15, 1951, p. 81), [2] his theoretic criticism of the high-fat diet also advocated, and [3] the necessity of using adjuvant measures because of the limitations of ACE for use as a prolonged substitutive adrenocorticotherapeutic agent.

My own interest in Drs. Lovell and Tintera's studies originated three years ago when I was using ACE in the management of the lymphoma-leukemia group of what I consider adaptative or atopic disease. The good offices of the manufacturer brought Dr. Tintera and me together for an informal, but exhaustive discussion of my own field of interest—the blood pictures presented by Dr. Tintera's subjects. It was my decided opinion that these were highly suggestive of hypocorticism. Dr. Tintera's contribution to my hematologic problem cases was tremendous.

One of the suggestions was that the anterior pituitary does not make a restrictive response to stimulus as a telephone switchboard operator

(Continued on page 26)

"You are probably right that he can't recover, but to make sure I'm going to call in another doctor."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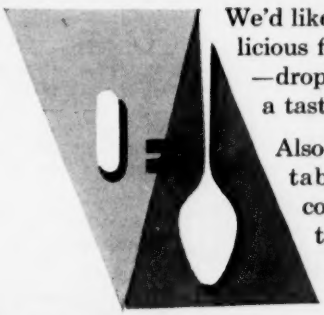

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does to a call for a specific phone number, but acts rather like a broadcasting station; when given an alarm stimulus, it reacts by elaboration, not only of adrenocorticotropin, but probably also of its other hormonal elaborates, although in smaller amounts. This type of activity of a polypotent endocrine gland would be in keeping with what we know of biologic responses in general.

Similarly, it was felt that if stimulated to produce the ketogenic hormone by a high-fat diet, the anterior pituitary would respond as well by coincident elaboration of small amounts of ACTH. The implication that this was the actual therapeutic basis of the old-time ketogenic diet and that we might procure sustained adrenocorticomimetic effects in our own patients with adaptative disease was afterward discussed with an endocrinologist, Dr. Jacob Halpern of Kings County Hospital, along with the theoretic dangers cited by Dr.

(Continued on page 30)

"Their last sale was much better. I was under the doctor's care for five days after it."

new!

for daytime tranquility

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Carbromal with Scopolamine

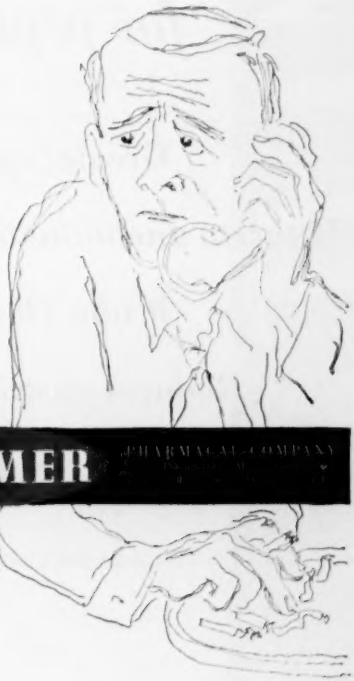
A new, *non-barbiturate* formula for daytime use
To calm the tense and nervous patient

CAR-SED-INE fills a long-felt need for a non-hypnotic, non-narcotic sedative that can be safely prescribed for daytime sedation without dulling the senses or producing unwanted drowsiness.

CAR-SED-INE combines two drugs of established clinical efficacy and safety:

Carbromal "...a dependable sedative. It allays excitement and anxiety and tends to restore quietude and tranquility."[1]

Scopolamine ". . . certainly . . . is effective in relieving the patient's emotional disturbances."[2]



FORMULA: each tablet contains Carbromal, 250 mg., and Scopolamine, HBr 0.1 mg.

DOSAGE: one tablet (in rare cases, two) two to four times daily, as required.

Supplied, on prescription only, in bottles of 100 and 1,000 tablets.

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1. Krantz, J.C. & Car, C.J.: Pharmacological Principles of Medical Practice, Williams & Wilkins Co., Baltimore, Md., 1951.

2. Goodman, L. & Gilman, A.: The Pharmacological Basis of Therapeutics. The Macmillan Co., New York City, 1941.

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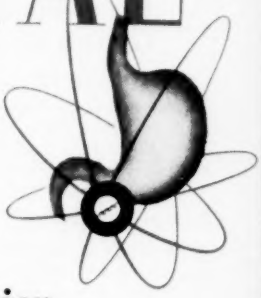

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Greater specificity of action

Hitherto unobtainable freedom from side effects

Wider flexibility of dosage

Reduces gastric motility and secretion

Relieves pain

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PRANTAL* Methylsulfate is a member of an entirely new class of synthetic anticholinergic compounds. It curbs excessive vagal stimuli to the stomach by inhibiting synaptic transmission across parasympathetic ganglia.

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Beutner of such a diet. As a result we routinely incorporated a high-fat intake into the diets of all patients receiving adrenocorticotherapy or its equivalent.

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The deficiencies of sustained, definitive adrenocorticotherapy for adaptative disease is a sore topic to all of us who noted the early remarkable responses of subjects to ACE, ACTH, or dehydrocorticosterone only to have the patients become refractory as the administration continued. Our pressing need in the field is a possible circumvention of this refractory state.

For nearly three years, there has been accumulating a series of patients who have been ingesting a small dose daily of one of the streptomyces-derived antibiotics—strepto-

"Yes, Mr. Walton, this is deductible."

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via the aqueous route

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VITAMIN A (natural)	5000 Units
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ASCORBIC ACID (C)	50 mg.
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RIBOFLAVIN (B_2)	0.4 mg.
PYRIDOXINE HCl (B_6)	0.3 mg.
NIACINAMIDE	5 mg.
PANTOTHENIC ACID	2 mg.

*100% NATURAL VITAMIN D, THE SUPERIOR ANTI-RACHITIC

Easy to take, easy to give in formula, milk, desserts, etc.; no fishy taste or odor; decidedly economical

1. Lewis, J. M. and Cohlan, S. Q.: M. Clin. N. A. 34:413, March 1950.

Samples on request.

U. S. VITAMIN CORPORATION
Casimir Funk Laboratories, Inc. (affiliate)
250 East 43rd St., New York 17, N. Y.

mycin, Chloromycetin, aureomycin, or terramycin. The series was started when it was noticed that children given aureomycin for upper respiratory infections would, in a significant number of instances, develop ravenous appetites and seem to have a sudden growth spurt. Before the actual metabolic and endocrinologic significance of such antibiotic dosing revealed itself in studies on the nature of "animal protein factor" in veterinary practice (*Arch. Biochem.* 23:510, 1949), we had adopted a similar schedule, purely as a nutritional expedient, for all our patients with adaptative disease. It now seems most certain that the continued antibiotic ingestion by humans with adaptative disease, in amounts comparable to those having an "animal protein factor" effect in domesticated poultry, hogs, or fur-bearing animals, gives rise to such pronounced adrenocorticomimetic effects that the presumably nutritional expedient turned out to be a highly effective mode of adrenocorticotherapy (*New York State J. Med.* 51:534, 1951).

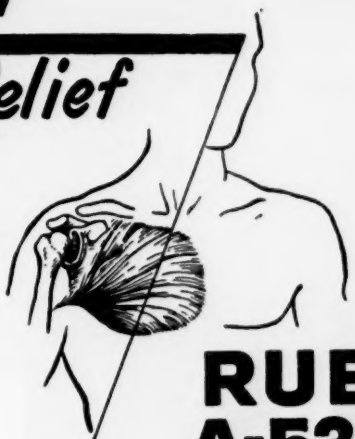
It was inevitable that in as large a series of subjects as have now accumulated, there would be some who could be classified as problem cases in alcoholism. Some of these on the antibiotic-ingestion schedule curtailed their drinking to below the problem level or stopped entirely, apparently of their own initiative. When questioned upon the matter, some said that they no longer felt the need for alcohol, while others avowed a distinct distaste for it.

If this last fact should be substantiated, it would not only provide an additional adjuvant to a field of therapy which, from Dr. Beutner's letter, still seems to need adjuvants

(Continued on page 36)

Rapid Relief

FOR MUSCULO-SKELETAL ACHES AND PAINS



RUB A-535

- ARTHRITIS •
- RHEUMATISM •
- BURSITIS •
- MYOSITIS •
- NEURITIS •
- SCIATICA •
- LUMBAGO •

Rub A-535's combination of time-proven ingredients, in a modern non-greasy, stainless, vanishing base facilitates rapid analgesic and counter-irritant action in the symptomatic treatment of a wide range of musculo-skeletal conditions.

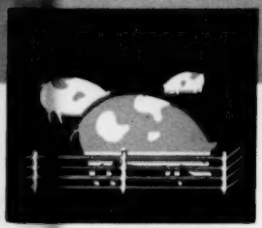
Rub A-535 contains four active ingredients: Camphor 1%, Menthol 1%, Oil Eucalyptus ½%, Methyl Salicylate 12%.

Rub A-535 may be used following diathermy, infra-red lamps, baking and other forms of physio-therapy.

For a Professional Sample of Rub A-535, Write Dept. B-21

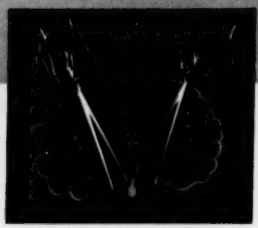
THE DENVER CHEMICAL MFG. CO., Inc.
163 Varick Street, New York 13, N. Y.

Farm to Pharmacy Control



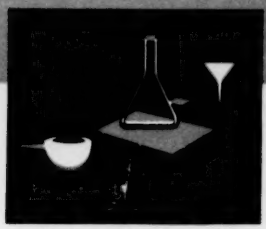
Assured Supply of Raw Materials

As a division of Wilson & Co., Inc.—a leader in the meat processing industry—The Wilson Laboratories are able to exercise rigid control in the selection of the highest quality raw materials and are assured an adequate supply of the healthiest livestock available.



Pituitary Selection—Under Rigid Control

Glands are removed and collected according to exacting specifications developed by The Wilson Laboratories through 33 years experience as pioneers in the development of fine pharmaceuticals of animal origin.



Unique Method of Preparation

The unique method of preparation has made possible adrenocorticotropic hormone in a stable, highly potent solution at a price most patients can afford. CORTICOTROPIN SOLUTION WILSON provides the desired pharmacologic activity of ACTH in standardized potency and stable form.

FOR DEPENDABLE EFFECTIVENESS AT MINIMUM COST SPECIFY

Corticotropin SOLUTION WILSON

Convenient Multiple Dose Vial

CORTICOTROPIN SOLUTION WILSON is supplied in a multiple dose vial which eliminates the inconvenience of mixing individual doses and abolishes the waste of discarding unused portions. Each 5 cc. vial contains 200 U.S.P. units.

All claims made for Corticotropin Solution Wilson have been approved by the Council on Pharmacy and Chemistry of the American Medical Association.

THE WILSON LABORATORIES

Division of Wilson & Co., Inc.

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Corticotropin

SOLUTION WILSON

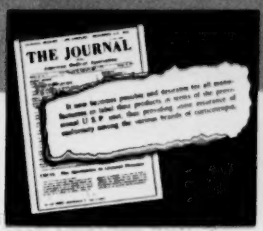
STABLE SOLUTION OF ACTH

A derivative of the anterior pituitary developed by The Wilson Laboratories division of Wilson & Co., Inc.

For Subcutaneous, Intramuscular and Intravenous Administration

Control of Potency and Purity

To assure potency and safety, repeated animal and chemical assays are made. Potency is controlled by repeated ascorbic acid depletion assays on hypophysectomized rats. Maximal safety is insured by oxytocic tests on roosters, gonadotropic and thyrotropic assays on chicks, and by repeated chemical determinations.



A.M.A. Council Recommended Standardization

CORTICOTROPIN SOLUTION WILSON is standardized in U.S.P. units, as recommended by the Council on Pharmacy and Chemistry of A.M.A. and the U.S.P. Committee of Revision[1]. Confusion, which may result from a multiplicity of standards, is thus minimized.

1. J.A.M.A. 147:326 (Sept. 22) 1951.

Stable Solution of ACTH

CORTICOTROPIN SOLUTION WILSON is a potent solution of ACTH—stable for more than 1½ years without refrigeration. It is a true solution—not a suspension. It does not require aqueous reconstitution, mixing, shaking or heating.

RELATIVELY LOW COST

Thrifty "farm to pharmacy" control combined with new methods of preparation, purification, and standardization, enables The Wilson Laboratories to sell CORTICOTROPIN SOLUTION WILSON at a relatively low cost. These new economies now make ACTH therapy available at a price most patients can afford.

Physicians' Price: $10.00 per 5 cc. vial containing 200 U.S.P. units (equivalent to $2.00 per cc. containing 40 U.S.P. units).

but it might also furnish an additional theoretic link between "animal protein factor" and definitive adrenocorticotherapy.

ROBERT D. BARNARD, M.D.
Laurelton, N. Y.

Prevention of Rheumatic Fever

TO THE EDITORS: Unbalanced meat diet prevents rheumatic fever.

In the *Medical Record* of January 1946, I concluded that an unbalanced meat diet prevents rheumatic fever from the following facts:

- Acute rheumatism is most common in the cold, humid climates of the British Isles.
- It most frequently attacks teen-agers, but until the start of World War II not a single case was reported among the well-known British private boarding schools. The unbalanced diet of these teen-agers was based on roast beef, beef steaks, and a few lamb chops, while the staple foods of the low-income groups, with high incidence of rheumatic fever, consisted of milk, sugar, bread and butter, jam, and cake.
- During World War I, the incidence of rheumatic fever among British soldiers in the French trenches was surprisingly low. For four winters they were exposed to the cold humid climate of northern France and their food consisted mainly of "bully beef." Most of them had more meat than they had eaten in all their lives.

About two years after the first publication of my theory that an unbalanced meat diet creates immunity to rheumatic fever, Dr. A. M. Duncan mentioned a few facts in *Lancet* (253:919-921, 1947) which clearly support my theory. According to him, rheumatic fever does not exist in the Yukon. The children live huddled together in virtually unventilated huts, suffering frequently from streptococcal sore throats. They get hardly anything to eat but meat.

ALFRED ROSSKAMM ROSS, M.D.
Andover, N. Y.

Peak Performance with Portability

for
Effective Deep Heat Therapy
and
Precise Electrosurgery

VC-5000 PORTABLE SHORT WAVE DIATHERMY UNIT

Approved by Underwriters' Laboratories, Inc.
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Despite its ready portability, this rugged, ACMI-engineered short wave diathermy unit gives peak performance for optimal deep heat therapy or precise electrosurgery. High power output, conveniently and safely controlled, permits unusual flexibility.

For diathermy, condenser applicator pads and/or cuffs, or the inductance cable, may be easily adjusted to body contours without tapes or straps.

For electrosurgery, using orificial or surgical electrodes, the high frequency current may be controlled with hairline precision for any hemostatic cutting, from the most delicate incision to mass excisions in bloody fields.

Model VC-5000 is handsomely encased in a sturdy, all-steel cabinet with lasting scratch- and crack-proof enamel finish.

Standard accessories: 1 Inlet cable; 2 heavy rubber condenser pads, 7" x 10"; 1 inductance cable; and 4 heavy, perforated felt spacers, 8"x11".

Size of unit: approx. 15" high, 14" wide, 17" deep.

Write for descriptive literature

American Cystoscope Makers, Inc.

1241 LAFAYETTE AVENUE — FREDERICK J. WALLACE, President — NEW YORK 59, N. Y.

Questions & Answers

All questions received will be answered by letter directed to the petitioner; questions chosen for publication will appear with the physician's name deleted. Address all inquiries to the Editorial Department, MODERN MEDICINE, *84 South Tenth Street, Minneapolis 3, Minnesota.*

QUESTION: What procedure and precautionary measures should be taken for a primipara or multipara with Rh-negative blood?

M.D., New York

ANSWER: *By Consultant in Obstetrics.* If a primipara or multipara is Rh negative, a sample of the husband's blood should be taken to determine his Rh genotype status. If the husband is Rh positive, the patient is observed at intervals of four to six weeks to determine whether Rh-positive antibodies are developing in her blood.

In the case of a multipara, a history of past pregnancies and the Rh status of the patient's children are helpful. If the woman is Rh negative and has had difficulty with previous pregnancies, an immediate check for an antibody titer should be undertaken.

About the only accepted precaution to date is the induction of labor some three to five weeks early if the patient has a positive titer, especially if the titer is rising. Hapten has been used with some success, but this substance has been generally discredited throughout the country by hematologists. The theory has been advanced that progesterone keeps the uterus quiet so that a break between maternal and fetal circulation is less apt to occur, but the use of progesterone is controversial. Cortisone and ACTH have also been employed, but at present are considered of no value, although some reports indicate that, if the condition is not too severe, an erythroblastotic fetus will react favorably to small doses of ACTH in combination with transfusion, partial or total.

Methionine has been administered when the mother shows some antibody titer, because the compound is thought to afford some protection to the fetal liver. This also is a controversial procedure, but one that can do no harm.

QUESTION: A syphilitic patient who had a positive blood serology four years ago has since had several courses of treatment by other physicians. Recently, I administered daily injections of 350,000 units per cubic centimeter of procaine penicillin G in aqueous suspension for twenty days. A blood Wassermann taken one week later was positive. Was the dosage inadequate or is the patient serum fast and so reacts positively?

M.D., Pennsylvania

ANSWER: *By Consultant in Syphilology.* Almost all inquiries about syphilis do not give the information that is necessary for an intelligent answer.

Pabalate

A cough medication—

"significantly superior"

Carefully controlled tests on 52 institutionalized patients have led to the conclusion[1] that "in all important categories, the glycerol guaiacolate preparation (Robitussin) was *significantly superior*" to the recognized remedies ammonium chloride and scopin hydrate.

Robitussin 'Robins' employs not only glyceryl guaiacolate—shown to have maximum effectiveness for increasing respiratory tract secretions[2] and reducing coughing spells[3]—but also desoxyephedrine hydrochloride, for relieving bronchiolar constriction[4] and improving the patient's mood.[5] An exceptionally palatable syrup, for both adults and children.

REFERENCES: 1. American Practitioner and Digest of Treatment, 2:855, 1951. 2. J. Pharmacol. & Exper. Therapy, 87:24, 1946. 3. Ibid, 73:65, 1941. 4. J. Pharmacol. 77:324, 1943. 5. J. Lab. & Clin. Med., 28:603, 1943.

A. H. ROBINS CO., INC. • RICHMOND 20, VA.

Robitussin®

Robins

Tabulating clinical findings

One should know the patient's age, the duration of the infection, physical state of the individual when the first treatment was given, details of previous therapy, results of serologic tests, and spinal fluid findings. A recent general physical examination is also important.

In this case, we would like to know whether and when the spinal fluid was examined, what the findings were, and the present physical state of the patient. Without this information, we assume, but perhaps incorrectly, that we are dealing with latent syphilis and that the therapy has been adequate according to present standards.

The fact that infection in this case has been present for at least four years is sufficient to explain the apparently fixed serologic status. Possibly a change for the better will never occur in this patient's serologic state.

However, in spite of the absence of serologic response, most patients in this class are cured in the practical sense of the word. Detailed advice in this case depends upon answers to the questions listed earlier.

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high potency
convenient

CRYSTALLINE
Terramycin

250 mg. of pure Crystalline Terramycin per teaspoonful (5 cc.). Supplied in a combination package consisting of a vial containing 1.5 Gm. Crystalline Terramycin . . . and a bottle containing 1 fl. oz. of flavored diluent.

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Pfizer

In a matter of minutes...

GRATIFYING RELIEF

From the Distress of

Urinary Tract Symptoms

Pyridium acts *quickly* and *safely*, through an entirely local mechanism, to secure analgesia of the sensitive urogenital mucosa of patients suffering from cystitis, pyelonephritis, prostatitis, and urethritis.

Pyridium may be administered concomitantly with crystalline dihydrostreptomycin sulfate, penicillin, the sulfonamides, or other specific therapy to provide the twofold benefit of symptomatic relief and anti-infective action.

Pain and burning decreased in 93% of cases...*

Urinary frequency relieved in 85% of cases...*

*As reported by Kirwin, Lowsley, and Menning in a study of 118 cases treated for symptomatic relief with PYRIDIUM.

PYRIDIUM®

(Brand of Phenylazo-diamino-pyridine HCl)

Pyridium is the trade-mark of Nepera Chemical Co., Inc. for its brand of phenylazo-diamino-pyridine HCl. Merck & Co., Inc. sole distributor in the United States.

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A pleasant tasting, chewable multivitamin preparation

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OMNI-VITA* Spherettes

"The preferable way to prescribe vitamins"

WILLIAM R. WARNER
Division of Warner-Hudnut, Inc.
New York • Los Angeles • St. Louis

*Trade Mark

this preparation is indicated in:

Pneumonia — Acute Sinusitis

Upper Respiratory (and related) Infections

purulent rhinitis	bronchitis
nasal pharyngitis	tonsillitis
streptococcal sore throat	otitis media

Bacillary Dysentery — Urinary Tract Infections

this preparation is called:

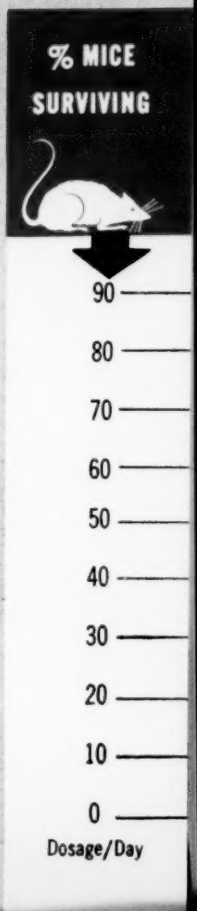
'ESKACILLIN 100-SULFAS'

(*formerly 'Eskacillin-Sulfas'*)

the original and outstanding FLUID penicillin-sulfonamide combination

this preparation has important advantages:

1. Increased antibacterial spectrum.
2. Potentiation of antibacterial intensity in certain infections (see graphs).
3. High maintenance of penicillin blood concentrations.
4. Greatly increased safety of triple sulfonamide therapy.
5. Lessened chance of resistant strains.



'Eskacillin 100-Sulfas' is so pleasant-tasting that children enjoy taking whatever amount you prescribe. You will find this fluid penicillin-sulfonamide combination a logical preparation to use in treating many of the common bacterial infections of childhood.

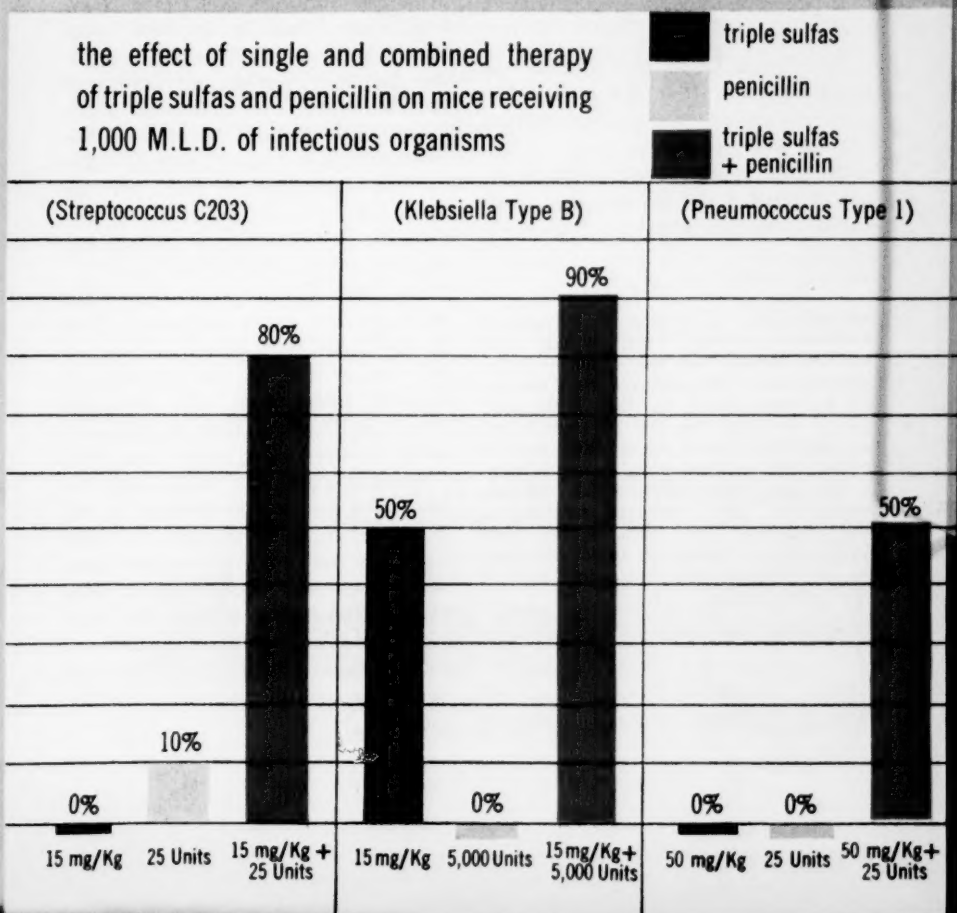
Smith, Kline & French Laboratories, Philadelphia

Formula: Each teaspoonful (5 cc.) supplies: crystalline potassium penicillin G, 100,000 Units; sulfadiazine, 0.167 Gm.; sulfamerazine, 0.167 Gm.; sulfamethazine, 0.167 Gm.

Available: On prescription only, in 2 fl. oz. bottles.

'Eskacillin' T.M. Reg. U.S. Pat. Off.

the effect of single and combined therapy of triple sulfas and penicillin on mice receiving 1,000 M.L.D. of infectious organisms



Forensic Medicine

ARTHUR L. H. STREET, LL.B.

Prepared especially for Modern Medicine

PROBLEM: In a prosecution for abortion by a lay woman, the prosecutrix testified that she was examined for pregnancy before the accused operated; the accused claimed that the examining doctor caused the abortion. Was the State properly permitted to show by another doctor that the pelvic examination which the prosecutrix described as having been made by the first doctor was a standard method for determining pregnancy?

COURT'S ANSWER: Yes.

The Texas Court of Criminal Appeals also said that the trial judge properly permitted a medical witness for the State to testify how employment of a catheter, such as the prosecutrix testifed the accused had used, could cause an abortion (230 S.W. 2d 541).

PROBLEM: [1] Was a lay laboratory technician exempt from paying sales tax on radiograms made by him for doctors, when the pictures were returned to, and stored by him after use? [2] If the sales tax law be interpreted as imposing taxes upon such technicians, but as exempting x-ray laboratories and hospitals "which furnish diagnoses" with pictures, making a single charge for both, would that provision of the law be unconstitutional as unjustly discriminating against lay technicians?

COURT'S ANSWERS: [1] No. [2] Yes.

The California District Court of Appeal, Second District, rejected the lay technician's contention that he was not subject to sales tax because his charges were based on services rendered, including reports as to his interpretation of pictures, and because it was generally understood by his patrons that title to the films remained in him. The court noted that it has been decided by the Michigan Supreme Court (262 N.W. 296) that "title to exposed x-ray film is not in the patient, but in the doctor who took and developed it." However, the California court found no judicial precedent on "property rights in radiograms made by lay technicians," but did see analogies in cases in which it had been decided that commercial photographers are subject to sales taxes.

On the second point, the court decided that taxes previously paid by the technician should be refunded, because the tax law unjustly exempted laboratories and hospitals that purported to furnish diagnoses with pictures. The court reasoned: "Diagnoses may be made only by proficient persons, authorized by the State," that is, by doctors. "Neither hospitals nor x-ray laboratories may make diagnoses." So, there is no basis for discriminating against lay technicians by exempting hospitals and x-ray laboratories, on a theory that the latter furnish diagnoses (222 Pac. 2d 898).

DIARRHEA CURED IN ONE-THIRD THE TIME

Arobon was recently studied in a series of 40 hospitalized infants suffering from acute diarrhea. The patients were evenly divided into a control group and an experimental group. Both groups received similar treatment, including antibiotic therapy and fluid and electrolyte replacement—the experimental group receiving Arobon in addition. The report states: "... the severity of the diarrhea was equally distributed among both groups; the average number of hours for the first formed stools to be obtained in the control group was 174.3 as compared to 47.95 in the Arobon group; the average number of hospital days required for treatment of the control group was 14.15 as compared to 7.85 for the Arobon group; the average number of hours before cure in the control group was 339.6 while the Arobon group was 120.05."*

Arobon is advantageously employed in providing symptomatic relief in all types of diarrhea and in all age groups. It may be used alone in non-specific diarrhea unaccompanied by fever and in conjunction with antibiotics in other cases.

Arobon is palatable and easy to prepare. For infants it is boiled in water or skim milk; for older children and adults, it is mixed with whole milk without boiling.

*Plowright, T.R.: The Use of Carob Flour (Arobon) in a Controlled Series of Infant Diarrhea, J. Pediat. 39:16 (July) 1951.

THE NESTLÉ COMPANY, INC.
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Arobon®

SPECIALLY PROCESSED CAROB FLOUR
HIGH IN PECTIN AND LIGNIN

PROBLEM: In a suit for damages for alleged malpractice in performing a ligation that resulted in gangrene and amputation of the plaintiff's leg, was a young physician, Dr. F, qualified to testify on behalf of plaintiff as to proper methods for treating varicose veins and whether blocking of the femoral artery could be repaired, under the following circumstances? When the operation was performed in Davenport, Iowa, Dr. F was a medical student at Northwestern University in Chicago, but before the case was tried ten years later he had acquired extensive experience in university hospitals and with an eminent specialist in vascular surgery, largely in the Chicago area, 175 miles from Davenport.

COURT'S ANSWER: Yes.

The Iowa Supreme Court's decision is principally noteworthy for its recognition of a judicial trend away from the old rule recognized by courts that proper care and practice is to be tested by that used by doctors who are in *the same or like localities.*

The trend applies especially, the court says, "where the locality in question is such a city as Davenport in a metropolitan area (including a portion of Illinois) of some 200,000 people, only three or four hours ride from a great city like Chicago. . . . Perhaps Dr. F could not have testified to such methods of treatment by a small-town general practitioner."

The court also noted that it was appropriate that the acts of the defendant surgeons in this case be tested by metropolitan standards because the patient had been assured that the assistant who operated was a specialist in the treatment of the conditions involved, thereby entitling the patient to expect more skillful care than he might have expected from a general practitioner (43 N.W. 2d 121).

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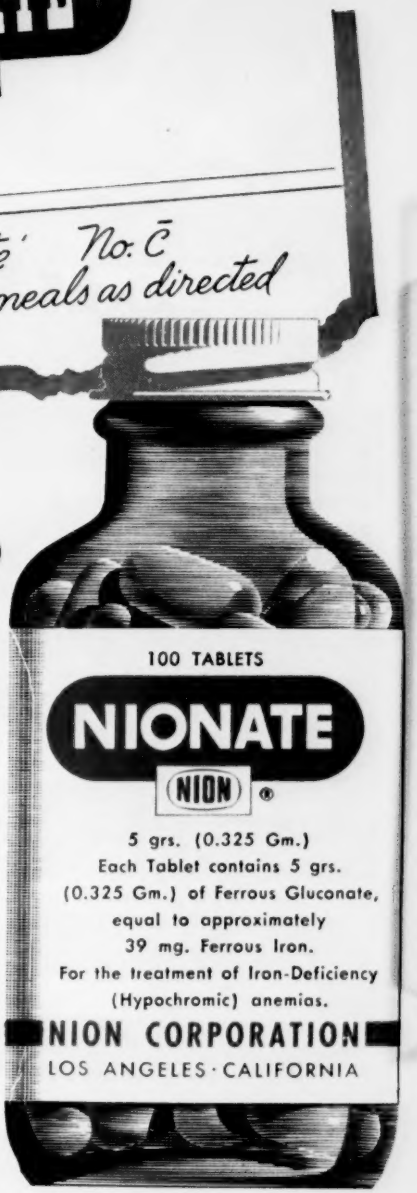

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***BETTER TOLERATED**

(non-astringent and non-irritating to gastro-intestinal mucosa)

***BETTER ABSORBED**

(completely soluble and available for absorption throughout entire pH range of G.I. tract)

***BETTER UTILIZED**

(proven by clinical investigations to give a superior hemoglobin rise)

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MINOR INJURIES
SPRAINS
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BRUISES
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IODEX c methyl sal

provides the stimulating and metabolic effects of the combined Iodine and the analgesic action of Methyl Salicylate.

Iodex c Methyl Sal is also an adjuvant in the treatment of rheumatic and arthritic pains.

The Iodine in ***Iodex c Methyl Sal*** *is slowly split off through percutaneous absorption.*

Samples and literature cheerfully sent upon request.

MENLEY & JAMES, LTD. *70 West 40th Street, New York 18, N. Y.*

Chloral hydrate, according to Goodman & Gilman
(The Pharmacological Basis of Therapeutics, 1941),
produces "a quiet and deep sleep
. . . it has been called 'physiological sleep'."

"...physiological sleep..."

SOMNOS® is a highly palatable,
well tolerated elixir of chloral hydrate,
1.6 Gm. (25 gr.) per fluidounce.
One of the most effective non-barbituric hypnotics.

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...ATED ...L HYDRA...

For Unhampered Therapy

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ⓤ Unit Packaging

ⓤ Cream-Pak Gives Assurance to the physician that the intended treatment will be followed—that there will be no "switching" or substitution in the course of the patient's continued therapy.

The professional sample you give the patient for testing can be an exact facsimile of the larger package—even in the case of those important creams and lotions—if the manufacturer uses ⓤ Cream-Pak—the only, single treatment package for such products.

And you have added assurance of success because of the convenience of ⓤ Cream-Pak—medication is instantly available—the package easy to keep in cabinet or desk drawer, convenient to carry in hand-bag or vest-pocket—clean, neat, protective. This factor of convenience alone, can spell the difference between success and failure—a matter of vital importance to the physician.

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Washington Letter

Election-minded Congress Tightens Purse Strings

As Congress opens its election year session, the hand of economy is resting heavily on all nondefense programs, medical included.

Because almost no changes have been made in membership of House and Senate, it is a safe assumption that very few new bills will be enacted if the expenditures can be stalled until after the November general elections.

Caught in this situation are the most important medical bills to come before Congress in the last several years. Legislation for federal help to medical and dental schools is pending in both chambers, but so far has not stirred up the support it had last year nor is it likely to in the future. Less controversial are the bills for federal aid in setting up and maintaining local public health departments. The Senate passed its Public Health bill a year ago, but by a close vote. The House bill is still in Interstate and Foreign Commerce Committee, where nothing has been done with it for almost a year. Because the immediate cost of this program would be high and the figure would mount annually, the law would be an undesirable one to present to the public just before an election.

"But Doctor, I must have a neurosis. All my friends have."

Various bills for control of barbiturates and to check up on chemical additives to foods also are waiting the attention of Congress. These bills may have some chance of passage, mainly because the cost of carrying them out would not be excessive and they would be of immediate—and of understandable—value to the public.

for the life that begins at forty

potent protection against
the combined threats of
atherosclerosis and capillary fragility

SCHENLEY LABORATORIES, INC.
LAWRENCEBURG • INDIANA

The average daily dose (6 tablets) provides:			
Choline	1 Gm.	Pyridoxine HCl	4 mg.
Inositol	1 Gm.	Rutin	150 mg.
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SUPPLIED: Bottles containing 100 tablets			

In addition to election year economy, generated within its own members, Congress faces mounting military and foreign aid expenditures, largely in the form of payment for items ordered last year or even eighteen months ago.

In charting future expenditures, the Budget Bureau plays a key role. Technically, the bureau is an extension of the executive office. Practically, of course, the President keeps out of the details of health programs, except now and then to insist on the inclusion of a high-policy project, such as national compulsory health insurance. This item shows up annually in the President's budget, is approved by the Budget Bureau, and then is pretty much forgotten.

In other matters, the Budget Bureau is a tough, hard-headed guardian of the country's dollars. Before a health program from any of the executive departments containing a new proposal of appropriation can get before Congress, it has to pass the Budget Bureau. Experts make a careful check on how the money is to be spent, the need for the expenditure, and whether there is duplication, either with another federal program or with state programs.

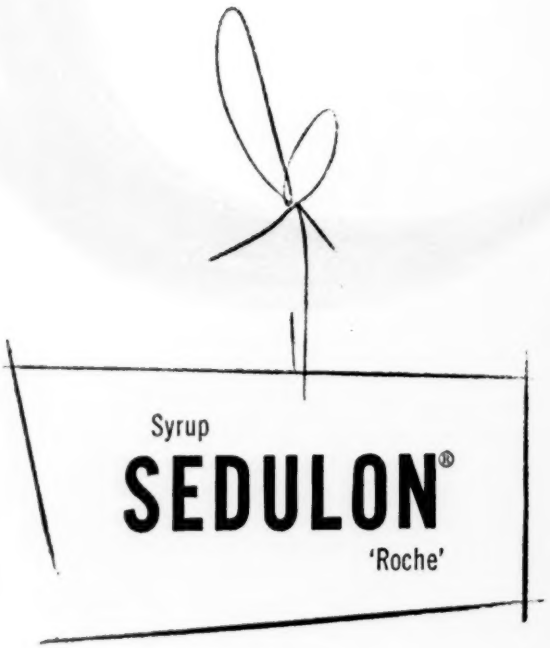
Once the bureau has acted—and generally it reduces a request—department officials are forbidden to campaign for higher funds. When questioned at open hearings, they may state their own views, but the official department policy must agree with budget bureau recommendations.

Budget Bureau officials live in a sort of shadow world, doing their economizing behind closed doors and seldom making public statements. So it is of some consequence when a bureau official in a public statement bluntly tells the health profession to expect little federal help—unless the particular project is directly related to the defense effort.

In an address before a gathering of federal and state health officers, the assistant director of the bureau, Elmer B. Staats, issued just such a warning. He first stated that, from a federal standpoint, "health is recognized as a basic resource, to be protected and improved." Then he explained that the President and Congress have been increasingly concerned with health problems. Since the fiscal year 1946, he said, expenditures of U.S. Public Health Service alone have expanded from $118 million annually to an estimated $300 million for the current fiscal year. The

(Continued on page 172)

for the



non-narcotic—in place of codeine

"I coughed all night"

patient

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Life's Weary Moments

Think of a gag that fits the illustration. For every issue a new gag is published and the author is sent $5. The Jan. 15 winner is

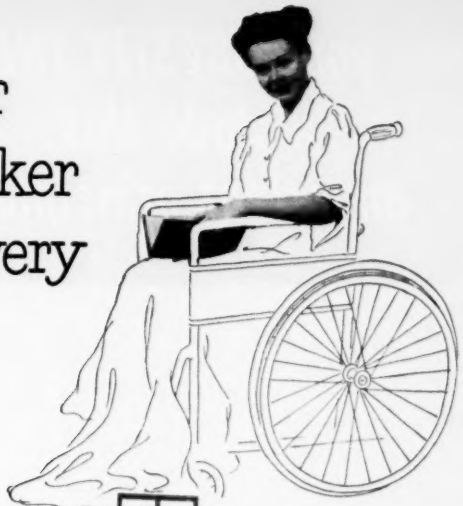
J. C. Bacala, M.D.
St. Louis

Mail your caption to The Cartoon Editor Caption Contest No. 1 MODERN MEDICINE 84 South 10th St. Minneapolis 3, Minn.

"Surely I remember you. Twice my bills have been returned stamped 'Unknown' at this address you have just given me."

---

for
Quicker
recovery



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	Folic Acid	2.5 mg.	Vitamin C	150 mg.

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*Spies, T. D.: Rehabilitation Through Better Nutrition, Philadelphia, W. B. Saunders Co., 1947, p. 62.

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[1] Queries and Minor Notes (Reducing Diet). J.A.M.A., 142:1328 (Apr. 22) 1950

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Manganese	0.33 mg.
Molybdenum	0.2 mg.
Magnesium	2 mg.
Phosphorus	187 mg.
Potassium	1.7 mg.
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Vitamin A	5000 U.S.P. Units
Vitamin D	400 U.S.P. Units
Vitamin B_1	2 mg.
Vitamin B_2	2 mg.
Vitamin B_6	0.5 mg.
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A Protest

against reckless extraction of teeth

A Modern Medicine Editorial

Many years ago I wrote a strong protest against the then very popular practice of recklessly extracting teeth. Naturally I had no objection to the extraction of badly abscessed teeth when the patient was suffering from a certain type of subacute arthritis; what I objected to was the removal of teeth when the person had some disease which, so far as was known, had nothing to do with focal infection.

At that time the idea of focal infection was at its height, and no matter what a person had—cancer, leukemia, psoriasis, or a broken leg—not only were all his devitalized teeth removed, but sometimes all his good ones went out with the bad. Often there was little sense to the procedure, but we physicians have always been great riders of hobbies, and whenever we found a procedure or a drug that helped in cases of one disease, we promptly tried it out on everyone who came into the office. This doubtless was necessary, and often we did find some other disease that could be relieved by the treatment; but usually we should have stopped sooner than we did. We should quickly have learned what diseases the treatment did not cure and, in such cases, should no longer have used it.

Often a physician becomes an enthusiast for some treatment because it cured him. Thus I remember a college classmate who for years after his impoverished student days carried around a mouthful of poorly filled teeth with abscesses at their roots. Finally, when this infection caught up with him and his joints began to give him trouble, he had all the teeth removed and dentures fitted. The resultant improvement in

his health was so gratifying to him that, thereafter, it was only a strong-willed patient who ever got out of his clutches before parting with all his teeth—good, bad, and indifferent!

It was interesting recently to find an issue of the *Journal of the American Dental Association* devoted to a protest against this sort of thing. Actually, the dentists have always been more sensible than we physicians about this type of supposedly therapeutic extraction of teeth. They have not been stampeded, and they have kept urging moderation. In many cases they have been distressed over the fact that the removal of an abutment for a bridge would mean that the patient would have to wear dentures. We physicians have not paid the slightest attention to this sort of thing. We wanted the devitalized teeth out, and we felt no concern over the problem of restoring a chewing surface. But we should have thought of this because, without a chewing surface, the maintenance of good nutrition may be difficult.

One of the saddest persons a consultant physician sees is the one whose health and happiness have been injured by ill-advised and profitless extractions. Often the person is utterly miserable because of plates that are not comfortable or cannot even be worn. The situation would not be so bad if the patient had been well rewarded for his sacrifice; he would not be so unhappy if he had been cured of his headache or arthritis but, actually, his original distress remains as bad as ever. Worse yet, any good physician could have told him that, in his case, the removal of teeth could not be expected to do any good. Perhaps the man had rheumatoid arthritis or destructive arthritis following a stroke which so greatly destroyed several joints that no treatment could ever remake them.

There is one type of patient whose teeth should never be removed, if the physician can possibly avoid it—the hypersensitive woman who gags badly if she tries to brush her back teeth. Commonly such a woman is unable to wear dentures, and after a year or two of misery she comes in with three or four sets in her handbag. Often all that ailed her to begin with was a menopausal depression or much unhappiness over a misbehaving husband or a daughter's unfortunate marriage.

There is another patient who should not be promised relief

from extraction of teeth: he is the person with tic douloureux. It is a sad commentary on the level of medical knowledge today that nearly all of these patients, by the time they reach the nerve surgeon who alone can relieve them, have had good teeth removed to no purpose. The physicians who saw them should have known immediately that such extractions would never help.

Another patient who is often asked to sacrifice good teeth to no advantage is the one with migraine. This is a hereditary disease, and in my experience the attacks are very rarely brought on by dental infection. Certainly no physician should ever tell a migrainous woman to sacrifice teeth with the hope that she would thereby lose her headaches.

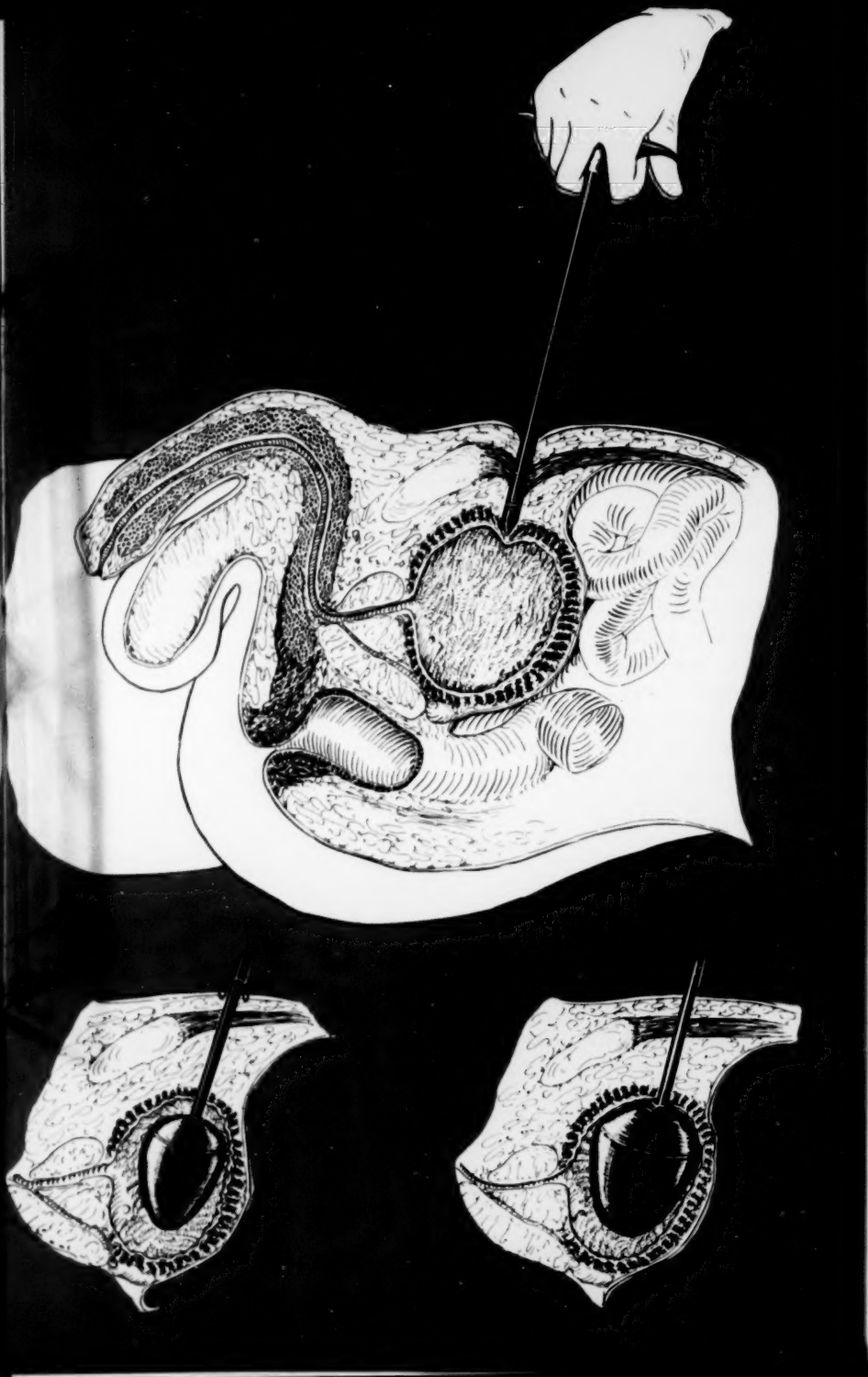
Another patient who should not have teeth removed is the old man or woman whose symptoms are due to a small stroke. In such case the removal of teeth will not only fail to do any good but is likely to do much harm. Hundreds of times I have seen such extraction add greatly to the patient's distress and feelings of discouragement, and sometimes I have seen it shorten life. Usually the old man or woman with teeth removed goes downhill and loses a lot of weight. An old person with no alveolar process on the mandible often has difficulty adjusting to the use of plates. I doubt if any of these persons are benefited by extractions, even when many of their teeth were in poor shape.

WALTER C. ALVAREZ

• • •

¶ SWIMMER'S OTITIS can be prevented by a disposable water-repellent cotton earplug and an oily antiseptic solution placed in the ear before swimming. W. Vernon Hostelley, M.D., of the University of Pennsylvania, Philadelphia, employs 1 or 2 parts of *m*-cresyl-acetate to 3 parts of chloroazodin dissolved in a 1:500 dilution of glyceryl triacetate. About 4 drops of liquid are put in each ear, then a tight plug of nonabsorbent cotton which has been purified without removal of natural oils. The antiseptic prevents water-borne or water-induced infection. The oil protects the skin of the ear canal from loss of fatty acids and helps retain the normal *p*H. The solution is also used in treatment of bacterial and fungous infections.

Arch. Otolaryng. 54:279-303, 1951.



When needed, trocar cystostomy is less hazardous than an indwelling catheter and safer than a traumatic catheterization.

Suprapubic Trocar Cystostomy

WILLIAM J. ENGEL, M.D.
Cleveland Clinic, Cleveland

FOR prolonged preoperative drainage in cases of vesical neck obstruction with impaired renal function from chronic urinary retention, suprapubic trocar cystostomy is often preferable to use of urethral catheterization.

The trocar incision is less hazardous for properly selected patients than traumatic catheterization. Urinary sepsis and uremia often cause death during prolonged bladder drainage by an indwelling urethral catheter.

Trocar cystostomy is valuable for patients with vesical neck obstruction requiring lengthy preoperative drainage because of [1] chronic retention with a large, palpably distended bladder, [2] elevated blood urea or creatinine indicating renal failure, [3] delayed function with bilateral hydronephrosis and hydroureter demonstrated by excretory urogram, or [4] complicating disease necessitating operative delay. All these factors may be determined without urethral instrumentation.

When possible, the cystostomy should be done as the initial procedure. Many advantages of the technic will be lost if an indwelling catheter is first employed, finds William J. Engel, M.D.

The patient lies supine, or with head slightly down if possible. If not palpable, the bladder must be distended with sterile saline solution to lift the peritoneal reflection from the path of the trocar. Irrigation and distention are done if the urine is cloudy and will hamper visualization.

A small cutaneous wheal is raised with local anesthesia in the midline, 2 fingerbreadths above the symphysis. Intravenous pentothal anesthesia may be used if the renal damage is not severe.

With a longer needle attached to the syringe, a small amount of novocain is injected through the tissue and the needle is advanced until urine can be aspirated. A small transverse skin incision is made, just large enough for easy entrance of the trocar.

The trocar is pointed, but not needle-sharp, and fits snugly into a cannula with a finger grip at the top. The cannula admits an 18 or 20 F. catheter, also a right-angle observation telescope with McCarthy resectoscope. An adapter fitting snugly into the top of the cannula affords a watertight connection.

With an auger-like rotating wrist motion which separates rather than cuts, the trocar and cannula are

Suprapubic trocar cystostomy: an evaluation and presentation of an improved instrument J. Urol. 65:998-1005, 1951.

plunged briskly into the bladder along the tract determined by the aspirating needle. A popping sensation indicates entrance into the bladder. The trocar is removed, the telescope and adapter are quickly introduced, and the bladder and vesical neck are carefully inspected.

The telescope is removed and a No. 18 or 20, 5-cc. bag catheter is introduced well into the bladder through the cannula; the cannula is removed. After the bag is distended, a silk suture passed through the margins of the incision is tied about the catheter to prevent accidental withdrawal, and a small dressing is applied.

Five days later, the suture is cut and the bag drawn up against the dome of the bladder. Irrigation of the catheter is not essential but daily lavage with 1:5,000 potassium permanganate insures patency. To prevent incrustation, the catheter is replaced every two or three weeks. If advisable, the catheter may be increased by one size each time up to 24 F.

The patient is allowed up and about as desired and may go home in a few days. The catheter is plugged during the day, with continuous drainage into a bottle at night.

When the blood urea is normal, prostatic surgery is considered if the patient's general condition is improved and the hydroureter and hydronephrosis are decreasing. The suprapubic catheter is removed on the first day after transurethral resection if a urethral catheter was inserted after the operation. The suprapubic fistula rarely drains more than a few hours.

The most serious complication is accidental removal of the suprapubic tube during operation or before an adequate sinus tract has formed. Perivesical extravasation and infection may then bring fatal results.

The operation is not done when suprapubic scars exist because the bowel may be inadvertently entered with the trocar if a loop of gut is caught just beneath the scar.

Deaths may be caused by poor drainage, inadvertent removal of the catheter, acute pyelonephritis resulting from previous use of an indwelling urethral catheter before cystostomy.

? MEGALOURETERS may result from congenitally inadequate parasympathetic innervation of the bladder. The detrusor is unable to contract properly, residual urine produces 2 or 3 times the usual intravesical pressure, and ureters are forced to dilate. In 7 cases with no mechanical obstruction, Orvar Swenson, M.D., of Tufts College, Boston, and associates of Harvard University and the New England Medical Center observed enlargement of the bladder and decreased numbers of ganglion cells at autopsy. Cystic and ureteral size can be reduced by suprapubic drainage maintained three to six months. Patients then learn to empty the bladder by manual suprapubic pressure applied at least four times daily.

Bull. New England M. Center 13:157-159, 1951.

Many severe systemic fungous diseases can be treated successfully if the condition is correctly diagnosed.

Management of Fungous Infections

EDMUND L. KEENEY, M.D.
San Diego

ACTINOMYCOSIS is the most common, easily recognized, and widely distributed of the severe systemic fungous diseases. *Actinomyces bovis* accounts for 90% of cases and *Nocardia* for the rest.

In about 3 of 5 instances of actinomycosis, the cervical-facial region is affected and treatment is successful. Thoracic and abdominal types are more serious. For optimal results, chronic infection requires surgery, roentgen therapy, and intensive administration of iodides as well as sulfonamides, penicillin, or aureomycin, reports Edmund L. Keeney, M.D.

Coccidioidomycosis produces an acute but benign self-limiting respiratory disease in thousands of people in the southwestern United States. Lesions causing no symptoms may heal and confer immunity.

A minor respiratory tract condition may develop with fever, cough, chest pain, chills, and sore throat. In chest roentgenograms fan-shaped densities are seen.

About 1% of cases become chronic and malignant, involving the skin, viscera, and bones. If lung infiltrations persist more than six weeks, progressive disease should be suspected and the entire skeleton examined radiographically. The severe form has a high mortality.

Treatment consists of strict bed rest until lesions regress and sedimentation rate is normal.

Blastomycosis forms granulomatous lesions, especially in the skin, lungs, and bones. In most cases the primary focus appears superficially on the face, hands, wrist, or forearms, first as a papule followed by secondary nodules which enlarge, coalesce, break down, and discharge purulent material.

Small skin lesions should be cut out or irradiated and large doses of potassium iodide given.

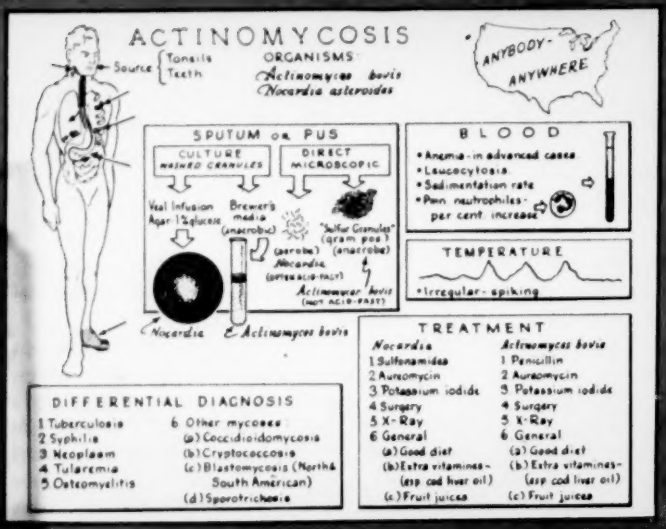
Systemic cases usually begin gradually with pulmonary infection causing a dry cough, some pain, slight fever, and shortness of breath. If skin tests with blastomyces vaccine are positive, desensitization is done with dilute vaccine before iodide therapy, surgical drainage, or irradiation is begun.

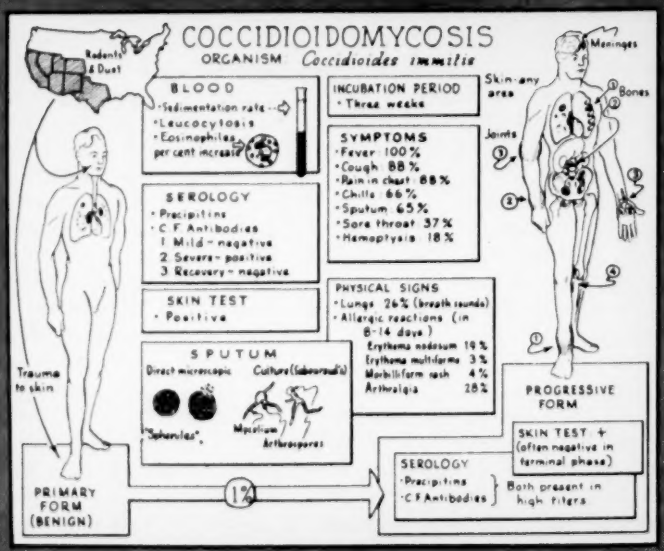
Histoplasmosis has a nonfatal form like coccidioidomycosis. The first stage resembles tuberculous infiltration and results in calcified foci. Lethal infections produce emaciation, septic fever, anemia, leukopenia, enlarged liver and spleen, and occasionally purpura or other sensitivity reactions.

Yeastlike bodies invade the mononuclear cells in huge numbers but

Medical fungi. Arizona Med. 8:19-33, 1951.

August #8


ACTINOMYCOSIS
Source: Tonsils, Teeth
ORGANISMS:
Actinomyces bovis
Nocardia asteroides
ANYBODY-ANYWHERE
SPUTUM or PUS
CULTURE washed granules
DIRECT MICROSCOPIC
Veal Infusion Agar 1% glucose
Brewer's media (anaerobic)
"Sulfur Granules" (gram pos.)
(aerobic)
(anaerobic)
Nocardia (often acid-fast)
Actinomyces bovis (not acid-fast)
Nocardia
Actinomyces bovis
BLOOD
• Anemia - in advanced cases
• Leucocytosis
• Sedimentation rate
• Poly. neutrophiles - per cent increase
TEMPERATURE
• Irregular - spiking
TREATMENT
Nocardia
1 Sulfonamides
2 Aureomycin
3 Potassium iodide
4 Surgery
5 X-Ray
6 General
(a) Good diet
(b) Extra vitamines - (esp. cod liver oil)
(c) Fruit juices
Actinomyces bovis
1 Penicillin
2 Aureomycin
3 Potassium iodide
4 Surgery
5 X-Ray
6 General
(a) Good diet
(b) Extra vitamines - (esp. cod liver oil)
(c) Fruit juices
DIFFERENTIAL DIAGNOSIS
1 Tuberculosis
2 Syphilis
3 Neoplasm
4 Tularemia
5 Osteomyelitis
6 Other mycoses:
(a) Coccidioidomycosis
(b) Cryptococcosis
(c) Blastomycosis (North & South American)
(d) Sporotrichosis


COCCIDIOIDOMYCOSIS
ORGANISM: Coccidioides immitis
Rodents & Dust
BLOOD
• Sedimentation rate
• Leucocytosis
• Eosinophiles - per cent increase
INCUBATION PERIOD
• Three weeks
SYMPTOMS
• Fever 100%
• Cough 88%
• Pain in chest 88%
• Chills 66%
• Sputum 65%
• Sore throat 37%
• Hemoptysis 18%
SEROLOGY
• Precipitins
• C F Antibodies
1 Mild - negative
2 Severe - positive
3 Recovery - negative
SKIN TEST
• Positive
PHYSICAL SIGNS
• Lungs 26% (breath sounds)
• Allergic reactions (in 8-14 days)
Erythema nodosum 19%
Erythema multiforme 3%
Morbilliform rash 4%
Arthralgia 28%
SPUTUM
Direct microscopic
Culture (Saboraud's)
"Spherules"
Mycelium
Arthrospores
Trauma to skin
PRIMARY FORM (BENIGN)
1%
PROGRESSIVE FORM
SKIN TEST + (often negative in terminal phase)
SEROLOGY
• Precipitins
• C F Antibodies
Both present in high titers
Meninges
Skin - any area
Bones
Joints

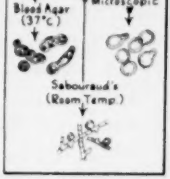
NORTH AMERICAN BLASTOMYCOSIS

ORGANISM *Blastomyces dermatitidis*

SPUTUM or PUS

Culture — Blood Agar (37°C) — Sabouraud's (Room Temp.)

Direct Microscopic



BLOOD

- Anemia- advanced cases
- Leucocytosis
- Sedimentation rate ---
- Pmn. neutrophiles per cent increase

TEMPERATURE

- Irregular - spiking

SEROLOGY (complement fixation)
Antigen = *Blastomyces* cells or Powdered extract
Result often positive

SKIN TEST (*Blastomyces* vaccine)
Delayed in type & usually positive

DIFFERENTIAL DIAGNOSIS

1. Tuberculosis
2. Syphilis
3. Neoplasm
4. Sarcoidosis
5. Silicosis
6. Osteomyelitis
7. Other mycoses
   - A Coccidioidomycosis
   - B Actinomycosis
   - C Cryptococcosis
   - D Sporotrichosis
   - E Candidiasis (Moniliasis)

TREATMENT

1. Potassium iodide - two weeks after desensitization with *Blastomyces* vaccine
2. Ethyl iodide by inhalation
3. Surgical drainage
4. Surgical excision (skin lesions)
5. X-Ray
6. General supportive measures

HISTOPLASMOSIS

ORGANISM
Histoplasma capsulatum

ALL AGES
28% in children under 13 years

Contaminated dust

Tuberculin negative
Histoplasmin positive

FIRST STAGE (Infiltrations)

?

SECOND STAGE (Calcifications)

BENIGN TYPE

SPUTUM - BLOOD - URINE
FECES - MARROW - LYMPH NODE

Direct microscopic

Blood: Marrow Lymph Node
Sputum

Culture

Blood agar (37°C) (Yeastlike)
Sabouraud's (30°C) (Cottony)

Yeastlike Cells
Terminal chlamydospora
Spiny chlamydospora

Tuberculin Negative
Histoplasmin Positive

FATAL TYPE

FEVER

BLOOD

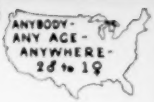
Anemia
Leukopenia

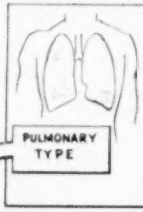
TREATMENT

1. No medication of accepted value
2. Following should be tried:
   - a Trivalent antimony (Fuadin)
   - b Pentavalent antimony (Neostam)
   - c Sulfathiazole

CRYPTOCOCCOSIS (TORULOSIS)

ORGANISM - *Cryptococcus neoformans*





LESIONS
1. Dense
2 Usually bilateral -
3 May be unilateral.

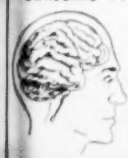
SYMPTOMS
1. Low grade fever
2 Mild cough
3. Mucoid sputum

PHYSICAL FINDINGS
1. Dullness
2 Altered breath sounds -
3 Rarely rales

From Sabouraud's Culture

A Budding cells - (no mycelia)
B India ink preparation (showing capsules)

CEREBRAL TYPE - (FATAL)



LESIONS
1 Meningitis
2 Meningo-encephalitis
3 May take form of localized tumor

SIGNS and SYMPTOMS
1 Not specific

LAB. FINDINGS
1 Blood studies - no value

2 Cerebrospinal Fluid
a Pressure - increased
b Cell count - elevated (lymphocytes usually predominate)
c Glucose - diminished
d Chlorides - diminished
e Protein - elevated
f Culture - Sabouraud's (moist, smooth, cream colored)

TREATMENT
1 No medication of accepted value
2 Following treatment to be tried:
a Oxophenarsine HCl (Mapharsen)
b Alkalinization
c Potassium iodide
d Sulfathiazole, sulfadiazine
e Streptomycin

CANDIDIASIS

ORGANISM *Candida albicans*

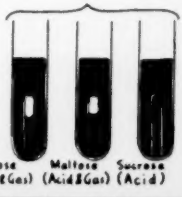
SPUTUM or OTHER MATERIAL

SEROLOGY
Agglutinins
Precipitins
} May or may not be present

Culture
Gelatin or cornmeal agar stab

Direct Microscopic

SKIN TEST:
Of no value.



TREATMENT

I Mucous membrane
A Caprylic acid salts
B Propionic acid salts
C Gentian violet

II Skin
A Caprylic acid salts
B Propionic acid salts

III Bronchial & Pulmonary
A Potassium iodide
B Sodium caprylate (Aerosol)
C Gentian violet (intravenous)
D Vaccine

are extracellular in sputum. The diagnosis is seldom made before death, and no adequate treatment has been devised.

Cryptococcosis, usually indexed as torulosis, has been reported from almost every country in the world. In the usual course, a subacute respiratory infection develops with slight cough and fever and is apparently subsiding when organisms spread to the meninges or brain.

The finding of budding yeast cells in spinal fluid establishes the diagnosis. The condition advances by degrees, generally until death. Since the organism produces acid, treatment by alkalinization has been suggested.

Candidiasis replaces the term moniliasis for an acute or chronic infection of the mouth, skin, nails, bronchi, lungs, vagina, or rarely the endocardium and meninges. Since moisture is indispensable to fungous growth, obese persons are particularly susceptible. Housewives, bartenders, waiters, bakers, and diabetics are the most common patients with the disease.

Detection of Lead Poisoning by Urinalysis

A. L. BROOKS, M.D.

THE porphyrin test, which is easy and convenient to perform, can be used to supplement the more complicated examinations widely employed to detect lead intoxication among workers in industrial plants.

Such time-consuming tests as stipple-cell counts and basophilic aggregation tests overload available laboratory facilities and make repeated examinations of personnel impossible. Excessive coproporphyrin type III is found in the urine of persons exposed to lead even before stippling of red cells occurs. The substance is not increased in persons who are not exposed; those with slight but definite intoxication have strongly positive urine levels of the porphyrin.

The technic was used in 942 consecutive urine determinations by the late A. L. Brooks, M.D., of Hurley Hospital, Flint, Mich. The test is done as follows:

To about 5 cc. of fresh urine in a test tube is added 1 cc. of glacial acetic acid, 5 cc. of ether, and 3 drops of hydrogen dioxide. The tube is inverted, then allowed to stand for at least ten minutes, and read in a dark room under ultraviolet light from a mercury vapor bulb with Wood's filter.

A pale blue ether layer, devoid of pink or rose tint, is considered negative. A deep rose red is 4 plus; lesser shades of violet through pink and light rose are 1, 2, and 3 plus, respectively.

An appraisal of a urinary porphyrin test in detection of lead absorption. Indust. Med. 20:390-392, 1951.

Excessive intake rather than sudden increase in synthesis of cholesterol is probably the cause of deposits in arteries.

Genesis of Coronary Sclerosis

TIMOTHY LEARY, M.D.
Tufts College, Boston

ACCORDING to the present knowledge of cholesterol metabolism, Timothy Leary, M.D., believes that low-cholesterol, low-fat diets are indicated in the treatment of persons who are susceptible to coronary artery disease.

Man is practically the only mammal naturally susceptible to atherosclerosis. A person who has suffered a coronary attack has demonstrated predilection for the disease. If he survives the acute condition, dietary cholesterol and fat should be restricted in order to protect the patient's coronary system against excesses of cholesterol.

Atherosclerosis is a metabolic disease, comparable to diabetes, resulting from disturbances in cholesterol metabolism, which is apparently under control of the thyroid gland. The lesions of the disease are produced focally in the arteries by deposition of excess cholesterol, in ester form within macrophages, at selective sites in the arterial intima.

The coronary form of atherosclerosis is caused by intermittent invasion of the coronary intima by waves of macrophages carrying crystalline esters of cholesterol. The disease is chronic, except in the highly susceptible. Years elapse in most cases before cholesterol deposits produce a critical lesion. The intervals between the cell migrations may be days to months and are usually longest for persons with no hereditary predisposition to the disease.

The crystalline esters of cholesterol within macrophages stimulate connective tissue growth. The maturing connective tissue crushes the macrophages, decreases blood supply, and causes necrosis. The cholesterol-ester contents of the macrophages is dissipated and a fibrosed lesion is produced. The process eventually thickens the coronary intima and narrows the lumen.

Between the periods of deposition of excessive cholesterol in the coronary intima, the cholesterol metabolic activity is sufficient to prevent these deposits. The ingestion of large amounts of cholesterol rather than sudden increases in cholesterol synthesis is probably responsible for periods of excess deposition.

The waves of cholesterophages are self-limited. The macrophages accumulate in the subendothelial layer of the intima and then move in a body into the deep layers of the intima. Invasion of the media is unusual. The lesser waves are probably temporary and may arise from excessive ingestion of cholesterol in a single day.

The genesis of coronary sclerosis. New England J. Med. 245:397-402, 1951.

The B_{12} vitamins are effective for pernicious anemia when given orally with exogenous intrinsic factor.

Cobalamin Compounds and Intrinsic Factor

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University of Maryland, Baltimore

A. A. CINTRON-RIVERA, M.D.
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THE generic term cobalamin has been proposed for a group of related compounds, vitamins B_{12}, B_{12a}, B_{12b}, B_{12c}, and B_{12d}.

The cobalamin analogues have the same basic chemical structure and the same type of biologic activity but vary in ability to promote the growth of test microorganisms. For patients who have addisonian pernicious anemia, vitamins B_{12b}, B_{12c}, and B_{12d} are apparently equally as effective when given parenterally as vitamin B_{12}.

The efficacy of concentrated liver extracts in pernicious anemia appears to depend exclusively on the cobalamin content. Hence, solutions of crystalline cobalamin or of cobalamin concentrates derived from sources other than liver should be effective substitutes for liver extracts.

Many studies indicate that cobalamin is the dietary or extrinsic factor of Castle. Individuals with pernicious anemia lack the intrinsic factor of Castle necessary for the efficient utilization of cobalamin in the gastrointestinal tract. Cobalamin is therapeutically effective, however, when given orally with an exogenous source of intrinsic factor.

Intrinsic factor does not potentiate cobalamin by protecting the vitamin against destruction in the alimentary tract nor by preventing utilization of the vitamin by the bacteria inhabiting the stomach and small intestine. If this theory were correct, the efficacy of intrinsic factor–cobalamin combinations in pernicious anemia would depend on the microbiologic inactivity of the combinations, observe Frank H. Bethell, M.D., Marian E. Swendseid, Ph.D., Stanley Miller, M.D., and A. A. Cintron-Rivera, M.D.

Cobalamin was incubated with an extract of hog duodenal mucosa. The mixture was then digested with trypsin for several hours at *p*H 8 and 37° C. and heated to 90 to 100° C. for ten minutes to destroy any residual uncombined intrinsic factor. Although the resulting product possessed the microbiologic activity of its original content of cobalamin, a good result was obtained with this preparation in a patient who had failed to benefit from oral cobalamin.

Cobalamin (vitamin B_{12}) and the intrinsic factor of Castle. Ann. Int. Med. 35:518-528, 1951.

Some cases of macrocytic anemia may be due simply to diets deficient in cobalamin and may be corrected by the daily oral administration of 5 μg. of crystalline cyanocobalamin (B_{12}) without a source of intrinsic factor. Macrocytic anemia resulting from impaired intestinal absorption may require parenteral administration of both cobalamin and folic acid in order to obtain satisfactory therapeutic results.

Use of Procaine Amide in Cardiac Arrhythmias

HERBERT J. KAYDEN, M.D., AND ASSOCIATES

THE amide analogue of procaine is effective in treating arrhythmias of ventricular origin.

Herbert J. Kayden, M.D., J. Murray Steele, M.D., Lester C. Mark, M.D., and Bernard B. Brodie, Ph.D., of New York University, Goldwater Memorial Hospital, New York City, and National Institutes of Health, Bethesda, Md., report successful use of the synthetic drug for patients whose aberrant rhythm had not been affected by quinidine given to the point of toxicity. Oral is preferable to intravenous administration unless the patient is comatose.

Procaine amide was given to 54 patients with premature ventricular contractions. In some cases the premature beats were attributable to digitalis treatment; in others, to organic lesions, primarily arteriosclerotic heart disease. In each instance, oral or intravenous procaine amide in doses of 0.4 to 1 gm. suppressed the ectopic beats.

With intravenous administration, the antiarrhythmic effect occurs during or shortly after injection; with oral administration, usually after a delay of thirty to sixty minutes. After a single intravenous dose, the period of suppression usually varies from three to six hours, but occasionally lasts less than one hour or continues for more than twenty-four. After a single oral dose, the usual period of suppression is the same as after an intravenous dose, three to six hours.

In 14 cases, administration of procaine amide at intervals of three to six hours prevented the recurrence of ventricular extrasystoles for many weeks. For 1 patient, arrhythmia has been controlled for four months.

For 13 of 15 patients with ventricular tachycardia, including 6 not controlled by quinidine, abnormal rhythm was terminated by intravenous or oral procaine amide.

Procaine amide is apparently less successful in interrupting auricular than ventricular arrhythmias.

The use of procaine amide in cardiac arrhythmias. Circulation 4:13-22, 1951.

¶ ANTIHISTAMINE TOLERANCE may develop when patients are taking antihistamine medication over long periods of time. If therapy seems less effective, larger doses or a temporary recess may therefore be advisable. Thurman B. Dannenberg, M.D., and Samuel M. Feinberg, M.D., of Northwestern University, Chicago, observed that after seven to twenty days of antihistamine therapy, the wheal and flare response to histamine and ragweed extract is less effectively controlled, although treatment apparently continues to give symptomatic relief. Resistance to one antihistamine extends to others not closely related. The refractory state subsides three to fourteen days after discontinuance of the drug.

J. Allergy 22:330-339, 1951.

Elevation of Penicillin Levels by Benemid

JAMES M. BURNELL, M.D.,
AND WILLIAM M. M. KIRBY, M.D.

THREE- to five-fold enhancement of penicillin levels may be attained by oral administration of Benemid, p-(di-n-propyl-sulfamyl)-benzoic acid. Like carinamide, the drug acts by blocking renal tubular excretion of penicillin but is effective in much smaller doses than carinamide and has low toxicity, find James M. Burnell, M.D., and William M. M. Kirby, M.D., of the University of Washington and King County Hospital, Seattle.

Benemid, 0.5 gm. orally every six hours, was administered to 74 patients receiving intramuscular penicillin G or the procaine salt for several different infections. In most instances, Benemid was given for only two or three days, but 5 patients received the medication for two weeks with no evidence of systemic toxicity. Intolerance was shown by vomiting in one case and dizziness in another.

Penicillin concentrations are not invariably higher after Benemid administration. Results are better when aqueous penicillin is given intramuscularly every three hours than when single daily injections of procaine penicillin are used. Levels as high as 40 to 80 units per cubic centimeter can be attained with 1,000,000 units of crystalline penicillin intramuscularly every two hours in conjunction with Benemid.

Benemid may thus be particularly valuable in treating infections caused by resistant organisms and conditions not ordinarily considered susceptible to penicillin.

Effectiveness of a new compound, Benemid, in elevating serum penicillin concentrations. J. Clin. Investigation 30:697-700, 1951.

Patency of deep veins of the leg must be demonstrated before definitive treatment of varicose veins.

Therapy for Varicose Veins

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BEFORE definitive treatment of varicose veins is attempted, the deep veins of the leg must be shown to be patent.

If the deep veins become obstructed, blood flow is reversed. Venous drainage of the lower extremity then goes to a large extent by way of the superficial veins. Ablation of these veins, even though varicosed, is therefore inadvisable.

Patency of the deep veins may be demonstrated by Perthe's test. A tourniquet is placed at the midthigh level, tight enough to obstruct the superficial but not the deep subfascial veins. The patient then exercises the leg by walking. If the deep veins are patent, the superficial veins below the tourniquet become less prominent. With obstruction of the deep veins, the varicose veins are more engorged during exercise.

If the results of Perthe's test are equivocal, the leg is snugly wrapped with an elastic bandage from instep to knee. With functioning deep leg veins, the patient will tolerate the bandage for hours. If the deep veins are obstructed, tenseness and pain will be experienced in the leg within fifteen minutes.

Surgical treatment for varicose veins is recommended by Sherman A. Eger, M.D., and Frederick B. Wagner, Jr., M.D., the type of operation being determined by the site and cause of the varicosities.

Incompetency of the valve at the saphenofemoral junction produces varicosities of the greater saphenous vein and tributaries. The competency of this valve is tested by placing a tourniquet about the thigh just below the saphenofemoral junction with the patient lying down and the leg elevated. The patient then stands erect. After ten seconds the tourniquet is removed.

With an incompetent saphenofemoral valve, a surge of blood travels down the saphenous vein. If, with the tourniquet in place, the varicosities fill within ten seconds, incompetent perforators are present. Normally, the superficial veins require thirty seconds to fill.

For an incompetent saphenofemoral valve, a high saphenous ligation is performed. A 2-in. section of the saphenous vein is removed just below its junction with the femoral vein. The tributaries of the saphenous vein in this region are also ablated.

Varicosities of the posterior and lateral portions of the leg and foot arise from the lesser saphenous vein. This vessel empties into the popliteal vein behind the knee. A procedure

Varicose veins. GP 4:52-59, 1951.

similar to the high saphenous ligation may be carried out at the lesser saphenopopliteal juncture.

Incompetent perforating veins should be removed, not simply ligated. The procedure consists in excision of a T-shaped vein segment composed of the peripheral portion of the perforator and the attached varicose vein.

Varicose vein surgery should be done in an operating room, using local anesthesia. The patient should be ambulatory after the operation.

Sclerosing therapy for varicose veins is generally losing favor because the recurrence rate with the method exceeds 50%. Small varicose tributaries unassociated with retrograde blood flow and small varicose vessels remaining after adequate surgery may be treated by injection.

Evaluation of Surgery for Gastric Carcinoma

GORDON MC NEER, M.D., AND ASSOCIATES

TOTAL gastrectomy with removal of the regional perigastric lymph nodes and the omentum should be done for all operable gastric cancers.

Subtotal resection, as commonly practiced, too often is followed by local recurrence or regional spread. Since eradication of the primary growth so as to prevent recurrence is the basic requirement of successful therapy for malignant tumors, subtotal resection must be considered inadequate.

In the New York metropolitan area, half the patients surviving supposedly curative subtotal gastrectomies for carcinoma have local recurrences two to seventy-five months after surgery, either in the wall of the stomach or at the site of the gastroenterostomy. About 10% more have recurrence in the duodenal stump, and another 21% have local metastasis in the perigastric lymph nodes and the stomach bed, state Gordon McNeer, M.D., Henry VandenBerg, Jr., M.D., and Lemuel Bowden, M.D., of Memorial Hospital, New York City, and Frederick Y. Donn, M.D., of Washington, D.C. Unsuspected foci of metastatic cancer are also found in the splenic pedicle and tail of the pancreas in about half the specimens.

Neither the size nor histologic type of the lesion permits forecast of local recurrence. Even if the primary lesion is less than 3 cm. in diameter, subtotal gastrectomy fails to prevent recurrence in over half the cases. More than three-fourths of the stomach is occasionally removed, but recurrence still appears.

When gastric cancer is not cured, the presence or absence of local recurrence has little apparent effect on the survival time.

A critical evaluation of subtotal gastrectomy for the cure of cancer of the stomach. Ann. Surg. 134:2-7, 1951.

Various suppurative or necrotic lesions are successfully treated by application of the enzyme trypsin as a powder or wet dressing.

Tryptic Debridement of Necrotic Tissue

HOWARD G. REISER, M.D., RICHARD PATTON, M.D., AND L. C. ROETTIG, M.D.
Ohio State University, Columbus

IN removal of purulent exudates, blood clots, and other types of necrotic tissue, trypsin appears equal to other proteolytic enzymes and, in some cases, superior.

Chemical debridement with the enzyme may be used for treatment of tuberculous empyema, contaminated amputation stump, diabetic gangrene, sloughing after attempted skin graft, and infected cancerous, varicose, or decubitus ulcers.

Action of the enzyme is rapid and may permit healing of persistent wounds. Regions of doubtful viability may be preserved and amputation avoided.

Howard G. Reiser, M.D., Richard Patton, M.D., and L. C. Roettig, M.D., employ Tryptar, a pure crystalline form obtained commercially in vials of standard stable potency. Since activity is greatest in the range of *p*H 6.8 to 7.5, the trypsin is dissolved in Sorensen's phosphate buffer for use in body cavities and on moderately acid or extremely alkaline outer areas. A 0.5% solution is effective.

Superficial lesions are tested with nitrazine paper, but most are in a suitable *p*H range. If the exudate is slightly moist, crystals are powdered on the surface. An eschar or dry exudate should be loosened at the edges and covered by a dressing wet with buffered solution.

Trypsin is inactivated by cooling; at room temperature, 75% of the solution's potency is lost in three hours. Dressings should be warmed slightly by external heat and changed every three or four hours, or fresh solution be instilled through tubes in the bandage.

During the first two or three treatments of a body cavity, continuous absorption may cause a histamine-like reaction. This is prevented if, before therapy, 25 to 50 mg. of benadryl is injected intravenously and 50 to 100 mg. of benadryl is given orally every three hours for three doses.

Purulent fibrinous strands and coagulum may be dissolved in a few minutes. Serum pours out to float off the debris, fresh leukocytes appear, and bacteria may disappear, probably because body defenses are strengthened. The exudate subsides, and a clean pink granulating surface remains.

The only undesired reactions are slight burning or stinging on the surface or, during internal therapy, a little rise of temperature and pulse. The action of the enzyme is stopped

Tryptic debridement of necrotic tissue. Arch. Surg. 63:568-575, 1951.

at once by application of sodium bicarbonate solution.

If tuberculous empyema resists ordinary lavage, aspiration, and instillation of streptomycin, the lung may be prepared for thoracotomy and decortication by twelve daily injections of proteolytic solution.

Treatment of diabetic gangrene with wet dressings of trypsin in buffer diluent may save the affected leg.

A crushed, grossly contaminated limb cleansed with powdered enzyme on three successive days may be resected at a lower level than would be possible otherwise.

After subcutaneous postoperative bleeding, a 10-cm. hematoma in an open wound has been liquefied in less than an hour by six or seven applications of trypsin powder.

Chronic osteomyelitis needs more than debridement with trypsin. However, application of trypsin dressings daily to a saucerized area or daily irrigation of an abscess may provide clean surfaces for grafting or spontaneous healing.

A skin graft that does not take may be removed chemically and the ulcer cleaned in two or three hours, after streptokinase and streptodornase have been tried without result.

Malignant growth is not inhibited by trypsin, but removal of dead tissue and exudate improves the general condition.

Removal of T Tubes from Bile Ducts

ANGUS L. CAMERON, M.D.

DIFFICULTY in removing T tubes from common bile ducts may be overcome by employing a prolonged pull from an overhead frame.

T tubes are easily removed if extracted within a few days or a few weeks after surgery. However, removal after twelve to eighteen months or more is often a problem, since abundant scar tissue may have formed, states Angus L. Cameron, M.D., of the Northwest Clinic, Minot, N. D.

If the T tube does not give with hand traction of a few pounds' pull, the patient is then placed in a hospital fracture bed with an overhead frame. A cord is hitched to the long arm of the tube and vertical traction of nearly 2 lb. is instituted by means of two pulleys and a 2-lb. weight. The tube may come out in a few minutes or in several days. The fistulous tract rarely fails to heal promptly.

Present-day T tubes are one-piece devices which are equally reliable whether made of red, gum, or synthetic rubber. However, any tube may plug and all must pass or be removed from the duct at some time. Every hospital should carry a large, fresh stock of tubes, so that one of dependable quality and the correct size is always available.

Difficulty in removing T tubes from bile ducts. Journal-Lancet 71:491-492, 1951.

Early recognition of constrictive pericarditis, frequently misdiagnosed, may allow successful therapy by operation.

Surgical Therapy of Constrictive Pericarditis

EMILE HOLMAN, M.D.
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WHEN a comparatively young patient has a circulatory failure but no obvious cardiac lesion, constrictive pericarditis should be suspected.

Tuberculous involvement progresses unrelentingly and may result in effusion or contracting scar tissue. At the first sign of compression, the heart should be relieved by surgery, even if infection is still active.

Emile Holman, M.D., exposes the entire surgical field by median sternotomy from the xiphoid process to the first or second intercostal space. The pericardium is excised beyond the left, right, and lower cardiac borders and around both venae cavae.

Operable pericarditis is often mistaken for valvular or rheumatic heart disease, tuberculous peritonitis, or cirrhosis of the liver. In many cases effective treatment is delayed for long periods.

Beck's triad of a small quiet heart, ascites, and high venous pressure is particularly significant. Congestive failure may cause edema and pleural effusion. Sounds are characteristically muffled and unaccompanied by murmurs.

Arterial and pulse pressures are reduced. Venous levels may be above 15 cm. of water in the arm and 5 to 10 cm. higher in the leg, owing probably to greater constriction of the lower vena cava. By fluoroscopic observation the heart borders move very little. The electrocardiogram will show low QRS voltage and inverted T waves.

In the acute stage, tuberculous pericarditis produces chills, sweats, fever, rapid pulse, dyspnea, a high sedimentation rate, leukocytosis, anemia, and pericardial friction rub. Effusion may develop and persist.

If high temperature drops, effusion subsides, a large cardiac shadow begins to shrink, but increasing heart failure appears, the sac is probably contracting. Chronic invalidism may develop, and without operation most tuberculous cases are fatal.

During severe illness with effusion, the heart should be decompressed at once by a minor procedure. The left sixth costal cartilage is removed for evacuation and drainage of fluid.

More extensive surgery is undertaken in ten to twenty days, regardless of improvement in the meantime. Wide exposure is indispensable, not only to keep the operative field in full view but to protect the thin-walled, fragile right auricle and ventricle.

The sternum is split, a transverse incision is made at the first or second intercostal space, and the ribs are displaced laterally on each side. The

The surgical treatment of constrictive pericarditis. Journal-Lancet 71:420-424, 1951.

upper sternum is left intact to maintain stability of the thorax.

The extent and site of pericardial thickening and calcification vary considerably from case to case, and the lesion may involve chiefly the right or left ventricle or either great vein, although the right heart is more susceptible. The only assurance of not missing critical areas is to strip the heart beyond all margins. Venous pressure will fall immediately.

The median sternal incision is much less dangerous than a simpler left thoracotomy or left parasternal approach. With the vulnerable right chambers under direct view, an adherent calcified band may be skirted or a sudden tear mended and frightening hemorrhage stopped.

Shock is no more frequent than with other methods. For example, the postoperative pulse rate may be no higher than 104 and the temperature at most about 99.2° F.

Radical decortication of the heart was successful in 5 cases with active tubercle bacilli in the pericardium.

The Leaking Duodenal Stump

BERNARD B. LARSEN, M.D.,
AND ROBERT C. FOREMAN, M.D.

DISRUPTION of the duodenal stump occurs after 3% of subtotal gastrectomies and is usually fatal, simply because effects are not recognized in time for proper treatment.

The diagnosis is generally confused by pulmonary complications. Yet recognition is not difficult, if the possibility is remembered, narcotics have been discontinued, and the abdomen is examined carefully with dressing removed.

The manifestations commonly appear three to six days postoperatively as severe, constant, nonradiating pain, tenderness, and moderate muscle spasm in the right upper abdomen. The mean temperature and pulse rate rise progressively.

In all probability, only small amounts of bile and pancreatic juice escape at first, with little or no irritating gastric secretion. The peritoneal reaction to surgery tends to localize the process.

With or without pulmonary involvement, however, an exploratory operation should be done immediately. Unless drainage is begun, peritonitis slowly spreads and a spontaneous external fistula or walled-off abscess may result.

The situation was grasped promptly in only 2 of 15 cases reviewed by Bernard B. Larsen, M.D., and Robert C. Foreman, M.D., at Western Reserve University, Cleveland. Both patients lived, but 11 of 13 died after late diagnosis, a mortality of 85%.

Syndrome of the leaking duodenal stump. Arch. Surg. 63:480-485, 1951.

Adrenal surgery necessitates prolonged hormonal replacement therapy and poses the constant threat of Addison's disease.

Surgery of the Adrenal Glands

CHARLES HUGGINS, M.D., AND DELBERT M. BERGENSTAL, M.D.
Ben May Laboratory for Cancer Research and University of Chicago

NEW diagnostic procedures, improved surgical technic, and the availability of steroid hormones for postoperative therapy have increased the feasibility of operation on the adrenal glands. However, adrenal surgery should never be attempted unless the chances of therapeutic benefit outweigh the certainty of long-continued postoperative hormonal replacement treatment and the constant threat of Addison's disease.

A hyperfunctioning adrenal cortical tumor produces androgens, estrogens, and corticoids, such as cortisone and 17-hydroxycorticosterone.

Tumors with androgenic effects are either benign or malignant and cause virilism, with abnormally rapid skeletal growth and dentition, well-developed musculature, a deep voice, precocious appearance of pubic hair, and overdevelopment of the penis or clitoris. The increased urinary excretion of 17-ketosteroids and androgens is of diagnostic importance.

Cortical tumors with estrogenic effects are very malignant neoplasms causing mammary hypertrophy and, in adults, gonadal atrophy and impotence. The urinary estrogens may be greatly increased in quantity or the 17-ketosteroids may be augmented and the estrogen level normal.

Cushing's syndrome may result from the corticoid effects of either benign or malignant cortical tumors or from bilateral adrenal hyperplasia. Urinary values of 17-ketosteroids and androgens are often greatly increased, but several kinds of steroids may be isolated from the urine of a single patient. Excellent results follow the removal of the tumor, state Charles Huggins, M.D., and Delbert M. Bergenstal, M.D. Abnormal hair falls out within a few days, hypertension rapidly recedes, and usually all symptoms and signs soon disappear.

The most striking effects of medullary hyperfunction are sympathomimetic, chiefly vasopressor in type, resulting from the hormones *l*-epinephrine and *l*-norepinephrine.

The sympathetic ganglion tumors are often malignant and metastasize early. Treatment by surgery and irradiation is generally unsatisfactory.

Symptoms of paroxysmal or persistent hypertension are caused by the medullary pheochromocytoma. During a paroxysm, precordial discomfort, palpitation, sweating, excitement, weakness, headache, labored breathing, and choking occur. Decrease in systolic and diastolic blood pressure after the intravenous administration of piperoxan and increase in blood pressure during a

Surgery of the adrenals. J.A.M.A. 147:101-106, 1951.

hypotensive phase after the injection of histamine base are diagnostic indications. Removal of the tumor usually affords permanent relief.

Unilateral adrenalectomy, when the gland on the opposite side functions normally, probably has no appreciable therapeutic effect. Bilateral partial adrenalectomy is beneficial in some cases of adrenal hyperfunction and in hypertension, but the fate of the adrenal fragment is uncertain—either adrenal insufficiency or recurrence of the disease may ensue. Bilateral total adrenalectomy is useful in severe hypertension and when painful cancer of the prostate returns after remission induced by antiandrogenic control.

A posterolateral approach and resection of the twelfth rib, with the patient in the lateral position used for kidney surgery, are employed. After incision of the fascia of Gerota, the orange-yellow base of the gland is seen at the upper pole of the kidney. The fine strands of tissue holding the adrenal in place are dissected free, the principal adrenal vein is divided and ligated, and the gland is removed. Intravenous fluids are extremely important.

The most important factor is the anticipation, prevention, and control of postoperative adrenal cortical insufficiency. Cortisone acetate, desoxycorticosterone acetate, and sodium chloride should be given just before surgery and immediately after. The maintenance dose of cortisone acetate is usually instituted on the sixth postoperative day without desoxycorticosterone acetate. Systolic blood pressure is maintained above 100 mm. of mercury by the slow intravenous injection of *l*-norepinephrine.

Regeneration of the Thyroid after Excision

JOHN V. GOODE, M.D., AND ASSOCIATES

THE surgeon who operates on a patient with Graves's disease is not likely to remove too much of the thyroid gland. Thyroid tissue cannot be totally extirpated, since tiny bits of gland or thyroid rests remain which by hypertrophy or hyperplasia become capable of taking over the function of the ablated gland. Even after the most radical thyroidectomy for Graves's disease, enough tissue develops within a year to assume one-fifth of the normal iodine uptake.

This regeneration is not seen after surgery for other types of goiters, even when adenomas are toxic. Hence conservative methods are adequate in such cases, find John V. Goode, M.D., Arthur Grollman, M.D., and Allen F. Reid, Ph.D., of the University of Texas, Dallas. Progressive atrophy follows extensive procedures for Hashimoto's struma lymphomatosa and storage of iodine tends to decrease with time.

Regeneration of human thyroid after so-called total thyroidectomy. Ann. Surg. 134:541-545, 1951.

Location in the abdomen of palpable masses is an important factor in arriving at the correct diagnosis.

Significance of Abdominal Masses

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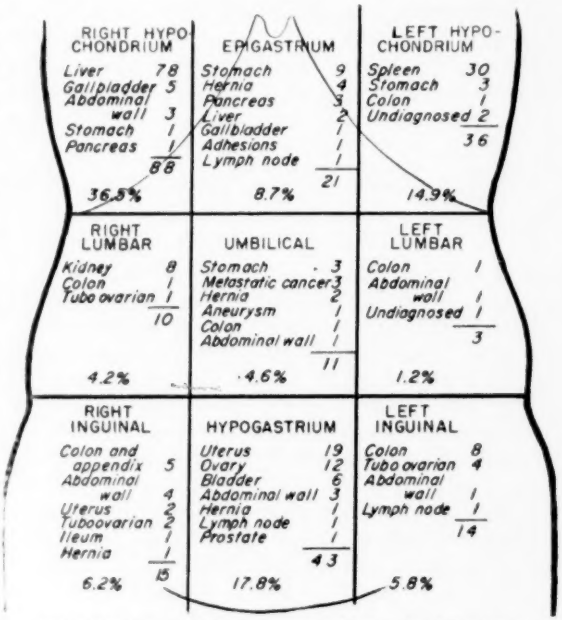
BULKY lesions of the abdomen are fairly common, and since many are malignant, early detection is important.

A mass difficult to palpate is sometimes brought within reach by special technic. To facilitate diagnosis, the size of the involved viscus may be increased, the lesions brought nearer to the abdominal wall, or relaxation of abdominal muscles encouraged.

Abdominal masses were observed in 215 of 5,000 consecutive cases in the general registration file of the Mayo Clinic, Rochester, Minn. Children and pregnant women were not included.

The organic distribution of abnormal tissue in the major abdominal areas and the frequency of the related diagnoses (see diagram) were determined by Donald B. Butler, M.D., and J. Arnold Bargen, M.D. An additional 101 patients with perceptible swellings in the abdomen were examined before surgery, and most of the affected parts were observed at operation.

About 4% of the people examined in miscellaneous clinic practice have



Distribution of Masses in the Abdominal Region

Abdominal masses. A survey of their incidence and clinical significance. Gastroenterology 19:1-12, 1951.

palpable abdominal masses, and malignant disease is discovered in 1 of 3 such cases. Incidence is probably somewhat lower in private medical practice, yet no mass can be ignored without grave risk.

To assist palpation, the size of a hollow organ may be increased. Small pyloric cancers can be felt if the stomach is distended with air by the method of Osler and McCrae, using a stomach tube.

Masses deep in the abdomen are brought forward by proper placement, for example, in a knee-chest position, or by pressure of the hand against the posterior wall of the abdomen.

Muscular relaxation may be improved by sedation with opiates or barbiturates, or by positions that do not stretch the recti. Small factors such as gentle handling during examination or warming the hands in advance may insure success.

Half of the malignant growths observed are primary neoplasms, therefore adequate palpation and surgical exploration offer at least a 50% chance of recovery.

To observe a lump for any length of time without attempts at definite diagnosis is inexcusable, particularly if size is increasing. In exclusively surgical cases, three fourths of the palpable abdominal lesions are malignant.

Location of a swelling often identifies the organ involved. A protuberance in the right hypochondrium will be the liver seven-eighths of the time; enlargement in the left hypochondrium will be splenic in 5 of 6 instances.

The liver is affected in 33% of cases, not a surprising rate considering the frequency of heart failure, cirrhosis, and hepatic metastases in general clinic experience. Nodularity and hardness of the enlarged organ are significant, but cancer cannot be excluded by absence of these traits.

Renal involvement apparently favors the right lumbar region, although such a tendency may not be evident in a large renal series.

The tenderness, shape, and mobility of a palpable abdominal mass do not help in the differentiation of a benign tumor from a malignant growth.

¶ OBSTETRIC ANALGESIA with morphine does not significantly delay respiration of the newborn if the mother also receives amphetamine sulfate. In 112 deliveries, 1/6 gr. of morphine sulfate was injected intramuscularly and, twenty minutes later, either 5 mg. of Dexedrine or 10 mg. of Benzedrine. The time between delivery of the chin and the first respiration was about thirty-two seconds, the same as for 350 births without drugs, report Stuart Abel, M.D., Zelda B. Ball, Ph.D., and S. C. Harris, Ph.D., of Northwestern University, Chicago. Respiration was delayed in 179 cases with either morphine alone or a combination of Demerol and scopolamine.

Am. J. Obst. & Gynec. 62:15-27, 1951.

Routes of spread of benign endometrial tissue and glands are essentially the same as those of endometrial cancer.

Benign Metastatic Spread of Endometriosis

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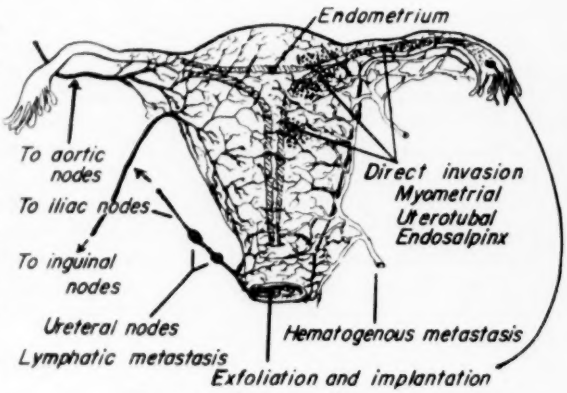

Spread of benign endometrium

DURING the course of endometriosis, benign tissue spreads to other parts of the body by the same routes as endometrial carcinoma.

Pregnancy, allowing the endometrium to lie dormant for about twelve months, is the best prevention and cure.

From data on 1,371 cases observed in seventeen years, Carl T. Javert, M.D., summarizes the following composite theory of benign metastasis:

Endometrial tissue is generally quiescent and confined to the uterine cavity until the menarche. The growth process of cyclic homeoplasia then begins, and the endometrium continues to pass regularly through proliferative, secretory, and menstrual phases.

From the age of 12 or 13 years, benign endometrial stroma and glands may scatter in several ways:

- Direct extension into the lymphatics or blood vessels of the myometrium or between muscle bundles, producing adenomyosis uteri. Tissue may also pass into the endosalpinx, forming a nidus for exfoliation of cells (see diagram).
- Exfoliation and implantation of cells at menstruation, during curettage, or from a nidus in the tube to form lesions on peritoneal surfaces
- Lymphatic spread with involvement of lymph nodes and adjacent organs
- Venous transport in the uterus and tubes, and blood stream migration to distant organs such as the kidney
- Secondary growth from foci already established along the various channels

The type of metastasis governs the location of genital and extragenital,

Observations on the pathology and spread of endometriosis based on the theory of benign metastasis. Am. J. Obst. & Gynec. 62:477-487, 1951.

peritoneal, and extraperitoneal implants. Thus lesions are discovered in the appendix, intestine, surgical scars, bladder, ureter, forearm, hand, and thigh, as well as in the vagina, cervix, uterus, tube, and ovary.

Endometriosis is apparently becoming more common, according to incidence in the Woman's Clinic of the New York Hospital. Rates are listed as 2.7% for 1933 and 5.6% for 1933 to 1950, inclusive, but 9.9% for the last four years. The increase coincides with a tendency toward smaller families, widespread use of contraception, less frequent cervical dilatation and uterine suspension, and adoption of tampons for menstruation.

Various types of dissemination may be lacking in some cases, since the pattern of endometriosis is affected by age at onset, hormone balance, cervical stenosis, uterine retroversion, sterility, parity, tissue resistance and reaction, length of disease, conservative or castrating pelvic surgery, irradiation, testosterone therapy, and pregnancy.

Young women with endometriosis may require dilatation and curettage, excision of pelvic lesions and adhesions with conservation of ovarian function, and uterine suspension. After such therapy, the patient is urged to conceive at once.

In older women, total hysterectomy and bilateral salpingo-oophorectomy may be warranted. Endometrial cancer is more likely with endometriosis, and castrating irradiation may result in adenocarcinoma.

¶ **TRICHOMONAS VAGINITIS** can be controlled by aureomycin without danger of yeast infection or sensitivity reactions if administered by vaginal insufflation. At the Medical College of Georgia, Augusta, a course of 10 insufflations is given, with careful avoidance of sustained pressure. Robert B. Greenblatt, M.D., and William E. Barfield, M.D., report good results with either of two formulas: 0.25 to 0.5 gm. of aureomycin, 1 or 2 gm. of talc, and 1 or 2 gm. of lactose; or 1 gm. of aureomycin, 3.5 gm. of talc, 8% methylparaben, and 2% propylparaben. Treatments are given daily or every other day for five insufflations, then weekly for five weeks.

Am. J. Obst. & Gynec. 62:423-426, 1951.

¶ **VAGINAL INFECTION** after hysterectomy is usually prevented by preoperative insertion of a cocoa butter suppository containing 10,000 units of bacitracin. Sensitization to the drug is infrequent. During treatment of 70 patients at the Mount Sinai Hospital, Chicago, no deaths or untoward reactions occurred. S. J. Turner, M.D., and associates observed much wider antibiotic range and less bacterial resistance than with penicillin. Only 4 women required additional medication, in contrast to 17 of a group given prophylactic iodine douches.

Am. J. Surg. 82:498-503, 1951.

Prevention of outbreaks of diarrhea among the newborn requires cooperation of the state, hospitals, physicians, and nurses.

Epidemic Diarrhea of the Newborn

THEODORE C. PANOS, M.D.
University of Texas, Galveston

DEVASTATING outbreaks of diarrhea among newborn infants are prevented only by measures planned long before the first case appears.

Epidemics can be eliminated by the combined efforts of legislative groups, health departments, hospital directors, physicians, and nurses. Methods of isolation, quarantine, and treatment are outlined by Theodore C. Panos, M.D.

Measures to prevent epidemics, including criteria to determine presumptive diagnosis, should be set up for every institution, so that if a baby passes 1 loose green stool, the nursery staff is at once alerted. A child with 4 or more loose stools daily is immediately isolated until the cause is known. When 2 babies are affected—some institutions select 3 as the number—the following steps are taken:

1] The health department is informed of a potential epidemic.

2] Sick children are isolated in a special unit with cubicles and separate facilities. If space and staff are not available, the pediatric contagion ward is used.

3] The nursery is quarantined until the last contact has been discharged and the room cleaned by prescribed rules. If the epidemic is large, both nursery and obstetric departments are closed, and new quarters, including formula room, set up.

4] A third nursery is arranged for suspected cases. As a rule, infants are soon discharged or transferred from this room to the isolation ward.

Clean, suspect, and contaminated sections each have their own personnel and, if possible, different physicians.

5] The source of infection is investigated. Both bacteria and viruses may be responsible, even organisms not classed as pathogenic. Cultures are repeatedly made from nasopharynx and stools of patients and attendants, milk formulas and ingredients, and antiseptic dip solutions. Every worker is examined daily for respiratory or bowel infection, and all feeding and nursing procedures are investigated.

6] One physician is put in full charge of the entire program.

Treatment is given in three phases, covering the first day, the second, third, and possibly fourth days, and convalescence, through the eighth to fourteenth. The aim is to replace water and electrolytes, stop oral feeding as a means of halting further depletion, and restore a full diet by cautious degrees.

Stage 1. Shock is overcome by physiologic saline in doses of 20 to

Management of epidemic diarrhea of the newborn. Postgrad. Med. 10:155-160, 1951.

30 cc. per kilogram of body weight, followed by the same amount of plasma or blood.

Nothing is given by mouth. Fluids are injected into the scalp, wrist, hand, or ankle vein if the technic is familiar, otherwise into the long saphenous vein near the medial malleolus. The rate for blood or plasma should not exceed 10 cc. per minute at first, or 5 cc. later. Warmth and oxygen are provided.

Fluid replacement requires 200 to 230 cc. per kilogram or more. About 45 cc. per kilogram is made up by the saline and plasma or blood given to overcome shock, the saline receiving full credit as fluid, and the blood or plasma receive half credit. Another 80 cc. per kilogram is injected as Darrow's solution. The remainder of the requirement is given as 5% dextrose in distilled water.

About 100 cc. of dextrose is given alone by drip, 8 to 10 drops per minute, before adding Darrow's solution. The mixture is then instilled at 12 to 15 drops per minute. Vitamins C, K, and B complex are supplied. Either 100,000 units of penicillin per day or a more specific antibiotic is required.

Stage 2. At least 150 cc. of fluid per kilogram is given daily by nursing bottle or tube at intervals of two or three hours, using 50 cc. of Darrow's solution to 100 cc. of 5% dextrose. As a rule, 20 cc. daily of blood or plasma per kilogram is advisable.

If the bottle is refused, gavage drip or intermittent feeding by a polyethylene tube is highly satisfactory, changing to the alternate nostril every third or fourth day. When a large hypodermoclysis is preferred, hyaluronidase speeds absorption.

Stage 3. The daily fluid ration is 150 cc. per kilogram with 20 cc. of milk mixture. Not less than twenty-four hours after the diarrheal stools have disappeared, a formula providing 20 calories per kilogram daily is started. Contents are skimmed or half-skimmed milk powder, 10% carbohydrate, water, and 1 or 2 gm. of potassium chloride.

From 10 to 20 calories per kilogram is added each day up to 90 or 100 calories; potassium dosage is stopped when the daily feeding comprises 70 to 80 calories, because the milk will then supply enough.

Half-skimmed, then whole cow's or evaporated milk is substituted very gradually until the daily amount is 120 calories per kilogram.

¶ DERMATOSES OF THE NEWBORN may be prevented or reduced by Desitin, an ointment containing chlorinated cod-liver oil, zinc oxide, talcum, lanolin, and petrolatum. Alternate babies were routinely treated with the ointment at the Jewish Hospital of Brooklyn; the other infants received mineral oil applications. Methods were compared by Caryl B. Heimer, M.D., Harold G. Grayzel, M.D., and Benjamin Kramer, M.D., in 1,295 cases observed for five to twelve days after birth. Nonsuppurative skin eruptions occurred half as frequently on the babies given the cod-liver oil as on the others. *Arch. Pediat. 68:382-387, 1951.*

Cumulative effects of applications of boric acid in amounts commonly considered to be harmless may be disastrous.

Boric Acid Poisoning

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Children's Hospital, Philadelphia

SEVERE illness and death may be caused by boric acid and sodium borate when used in amounts commonly considered harmless. The material is readily absorbed by several routes, and symptoms may be slight until a lethal or near lethal dose has been absorbed.

First indications of boric acid poisoning are usually nausea, vomiting, abdominal cramps, and diarrhea. Gastrointestinal symptoms occur even though the boric acid has not been swallowed. Vomiting may become very persistent and the vomitus contain blood. The stools may be bloody also.

An erythematous rash generally appears over most of the body and may involve the pharynx and tympanic membranes. Extensive epidermal exfoliation may occur after several days. The reported conjunctivitis probably is the result of vascular dilatation rather than arising from inflammation.

With severe poisoning, shock develops, with fall in blood pressure, tachycardia, and cyanosis. The temperature is most frequently reported as being subnormal or as high as 101° F.

The patient may rapidly become delirious, stuporous, and comatose. Convulsions are frequent, and death appears to result from central nervous system depression if persons survive the initial shock. In such cases the patient may live for a week or more after the poisoning and no boric acid be found in the tissues after death.

Clement Brooke, M.D., and Thomas Boggs, M.D., report a recent fatal case of a 9-month-old girl whose father, without knowledge of the pediatrician, added a liberal sprinkling of powdered boric acid to a medically prescribed application of zinc oxide for treatment of diaper rash.

Boric acid was apparently thus used for six days before hospitalization of the semicomatose, cyanotic, dehydrated, feverish infant.

Three hours after admission the baby's temperature rose to 105.8° F. and muscular twitchings began. Phenobarbital, acetylsalicylic acid, and tepid water sponges were employed.

Supportive and symptomatic treatment included oxygen, transfusion, intravenous dextrose and saline, adrenal cortical extract, vitamin K, and antibiotics.

Boric-acid poisoning. Am. J. Dis. Child. 82:465-472, 1951.

Chances of clots blocking flow of blood during exchange transfusion are decreased by use of a simple apparatus.

Exchange Transfusion for Erythroblastosis

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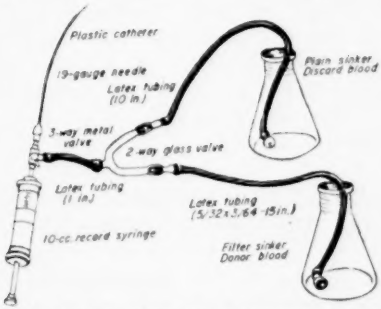
Lawrence and Mt. Vernon hospitals, Bronxville and Mt. Vernon, N. Y.

THE accepted treatment for severe erythroblastosis of the newborn is replacement of about 85% of blood through the umbilical or saphenous vein.

The simple transfusion set assembled by Henry W. Kaessler, M.D., and James J. Ledgard, M.D., permits free flow, thereby reducing chances of interference from clotting (see illustration). Only one operator



and few mechanical maneuvers are required. All parts are on the market.

Indications—Exchange transfusion is used for offspring of a mother sensitized by an earlier fetus with incompatible blood or by antigenic transfusion. An affected child may be the last born alive in the family and deserves utmost consideration.

During pregnancy, an increasing titer by the Coombs technic points to probable need for exchange transfusion of the infant. Immediately after birth, indications for transfusion are positive results by the Coombs test of blood from the infant's heel, icteric amniotic fluid, a large pale placenta, and a jaundiced, anemic infant with edema, bleeding tendencies, and a large liver and spleen. Relative anemia of the infant is shown by hemoglobin under 15 gm. and red cell count less than 5,000,000 with more than 20 erythroblasts per 100 white cells.

Danger signals in the neonatal period are increasing icterus, decline of hemoglobin and red cells, rise of erythroblasts, weakness, air hunger, and hemorrhagic manifestations.

Equipment—Apparatus includes a pair each of 10-cc. record transfusion syringes with Luer tip, special 19-gauge transfusion needles, metal 3-way stopcocks, and glass 2-way valves; 3 plastic 7-in., 20-gauge catheters; 2 sections of Latex surgical tubing 1 in. long; 1 section each of tubing 10 and 15 in. long; 1 plain and 1 filter sinker; a stainless steel bowl; 2 Erlenmeyer 500-cc. flasks; and silk ligature thread.

Syringes, glass valves, and plastic catheters are sterilized in Zephiran chloride solution, other parts by boiling or autoclaving.

Rinsing solution, 1 cc. of heparin

Exchange transfusion for fetal erythroblastosis. J. Pediat. 39:174-179, 1951.

containing 1,000 units in 100 cc. of physiologic saline, is used.

Fresh female donor blood of the infant's blood group and Rh d negative is obtained if possible. However, group O Rh d negative blood may be used with 10 cc. of Witebsky's A and B group specific substances.

Procedure—The 3-way stopcock is set in off position, and citrated blood is placed in the donor flask, which should not be elevated.

During the first twelve to twenty-four hours after birth, blood is introduced through the umbilical vein, if the channel is not thrombosed or unduly tortuous. Later, the saphenous vein is employed.

The catheter is placed and ligated, the needle inserted, and the stopcock set for automatic direction of both streams. Blood is supplied in 10-cc. portions and 9 cc. is alternately removed, until about 500 cc. is transfused and 450 cc. withdrawn by 50 strokes of the record syringe.

After instillation of every 70- to 100-cc. portion, the stopcock is turned off and the syringe detached for rinsing in heparin solution. The baby is given 1 cc. of a 10% calcium gluconate solution from a hypodermic syringe as a precaution against tetany.

From 1 to 2 cc. of heparin solution is then drawn into the record syringe. A small amount is directed into the catheter and the discard portions of the apparatus to prevent coagulation of blood.

Red Cells for Exchange Transfusion

ALEXANDER S. WIENER, M.D.,
AND IRVING B. WEXLER, M.D.

ERYTHROBLASTOTIC infants can be treated quickly and safely with 120 to 150 cc. of packed red cells injected as the same amount of whole blood is withdrawn.

The procedure adopted at the Jewish Hospital of Brooklyn by Alexander S. Wiener, M.D., and Irving B. Wexler, M.D., takes about thirty minutes, in contrast to at least an hour for ordinary methods. Very little heparin and no calcium are required, and mortality falls to 10% from a range of 15 to 24% with whole blood.

The mother is an ideal donor, since her cells are compatible in all types of sensitization, whether by Rh, Hr, A-B, or other factors. Blood is freshly drawn and centrifuged in 50-cc. tubes. Plasma is removed with a syringe and long aspirating needle. The hematocrit value is approximately 0.75. Maternal cells may be washed once or twice in saline.

The final hematocrit readings and proportions of inagglutinable cells after transfusion are easily determined from a table.

Modification of the technic of treating erythroblastosis fetalis by exchange transfusion. Pediatrics 8:117-127, 1951.

Palliation afforded by splanchnicectomy gives this procedure a definite place in the management of hypertension.

Splanchnicectomy and Hypertension

S. W. HOOBLER, M.D., AND ASSOCIATES
University of Michigan, Ann Arbor

SUPRADIAPHRAGMATIC splanchnicectomy, less radical than other types of sympathetic surgery, has a definite place in management of hypertension, though effects are palliative rather than curative. The blood pressure is significantly lowered in about one-third of cases and hypertensive symptoms, especially headache, are frequently relieved.

Results achieved for 338 hypertensive individuals ten to eighteen months after operation and for 79 patients given medical treatment show that improvement is more frequent when operative therapy is used, report S. W. Hoobler, M.D., J. T. Manning, M.D., W. G. Paine, M.D., S. G. McClellan, M.D., P. O. Helcher, M.D., Henry Renfert, Jr., M.D., M. M. Peet, M.D., and E. A. Kahn, M.D.

Splanchnicectomy tends to reduce the blood pressure in all patients with hypertension, regardless of the cause or duration of the disease. Persistence of lowered blood pressure depends to a great extent on the degree and magnitude of compensatory influences that develop in the postoperative period. Almost every patient who has good results one year after operation maintains the improvement subsequently. Ultimate good outcome cannot be assured before one year has elapsed.

The response to tetraethylammonium is unchanged, suggesting the continuance of significant vasomotor tone in the thoracoabdominal area. Orthostatic hypotension is rarely observed two weeks or more after operation. Patients are discharged about the tenth day following surgery and are able to return to work in two to three months.

The most disabling symptoms referable to the operation is postoperative back pain, which occurred as an occasional ache in 35% of the cases six months after discharge from the hospital. In 9% of individuals, backache was sufficiently severe to interfere with normal activity.

Patients with high diastolic blood pressures are the most likely to benefit from the operation. Those with malignant hypertension do far worse than those with uncomplicated essential hypertension. Hypertension with vascular complications may not be appreciably reduced by splanchnicectomy, but the operation is usually advisable because of the poor prognosis with such lesions. Patients with elevated nonprotein nitrogen because of renal dysfunction are poor operative risks.

The effects of splanchnicectomy on the blood pressure in hypertension. Circulation 4:173-183, 1951.

Bed rest and maintenance of blood pressure at a moderate level are desirable for patients who have recurrent cerebral paralysis.

Recurrent Cerebrovascular Symptoms

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TWO measures which secure the best results in therapy of persons with common types of recurrent hemiplegia or other cerebral paralytic phenomena are: [1] maintenance of blood pressure at a moderate level and [2] reduction by bed rest of metabolic demands.

Since the condition is related to anatomic defects in collateral circulation rather than to vasospasm, vasodilators and stellate block are ineffective and may be dangerous, explains D. Denny-Brown, M.D. Such measures cause dramatic hemodynamic changes in the cerebral circulation, resulting in circulatory insufficiency and even in the production of fresh basilar or carotid vascular lesions. Cerebral function is altered with a corresponding derangement of metabolic activity of all body cells, particularly brain cells.

The chief factor in regulating cerebral blood flow is cerebral metabolism. Bilateral block of the stellate ganglion by procaine fails to decrease cerebral vascular resistance and does not augment the cerebral blood flow. The most potent dilating agent in cerebral vessels is carbon dioxide, with maximum effect occurring in concentrations between 5 and 7%. Low oxygen may be almost as efficient. Less effective dilators are the nitrites and such substances as acetylcholine and histamine. Morphine and derivatives have less dilating effects on cerebral vessels than on the general circulation.

Transient basilar artery occlusion is indicated by dizziness, total blindness, and weakness of limbs. If the lesion is severe, consciousness is lost.

When repeated transient disturbances include weakness and numbness of an arm, with dysarthria or dysphasia, internal carotid artery occlusion should be suspected. Ophthalmoscopic observation of the retinal vessels reveals typical constrictions.

With hypertensive encephalopathy, diffuse cerebral involvement without gross renal damage is associated with small cerebral arteriolar occlusions. Phases of mental confusion, impairment of vision, and convulsive disorders occur. Narrowing of the lumen of the retinal vessels is caused by the intimal arteriolar lesions.

The recurrent cerebral episodes are, therefore, not secondary to vasospasms of the muscular coat of the cerebral arteries, but to stenosis of the vessels, associated with anatomic defects in the collateral circulation. Occlusion is caused by endarteritis.

The treatment of recurrent cerebrovascular symptoms and the question of "vasospasm." M. Clin. North America 35:1457-1474, 1951.

¶ LUPUS ERYTHEMATOSUS may be controlled by cortisone ointment massaged into affected areas three or four times daily. From slight to great improvement of chronic discoid lesions is noted in one to seventeen weeks, and results are similar with lipoid diabetic necrobiosis. The most effective preparation employed by Ben A. Newman, M.D., and Fred F. Feldman, M.D., at the Cedars of Lebanon and Los Angeles County General hospitals contains 25 mg. of cortisone per gram of carbowax base.

J. Invest. Dermat. 17:3-6, 1951.

¶ SEBORRHEIC DERMATITIS of the scalp, especially common dandruff, is generally controlled by shampoo containing 2.5% selenium disulfide and 17% surface-active agent with inert material and water. In tests at the University of Cincinnati on animals, 100 healthy volunteers, and 104 patients with skin disease, William N. Slinger, M.D., and Donald M. Hubbard, Ch.E., observed no trace of drug irritation, sensitization, or toxicity. The head is washed twice weekly for two weeks, and once a week thereafter. Itching and burning are usually eliminated by 2 or 3 treatments, and in 81% of cases flaking and erythema disappear within a month or two. If treatment is stopped, however, symptoms may return.

Arch. Dermat. & Syph. 64:41-48, 1951.

¶ CHRONIC LICHEN SIMPLEX may regress during podophyllin therapy. In the technic employed by John Garb, M.D., of New York University, New York City, an inch of skin around the lesions is protected with collodion, and ointment of 0.25 to 2.5% strength is applied once or twice a week. The site is covered with wax paper and bandaged for twenty-four hours, then covered with a salve containing 2 parts bismuth subgallate, 4 parts castor oil, and 30 parts white petrolatum. For faster action, 0.125 to 2% ointment may be applied at home concurrently.

Arch. Dermat. & Syph. 63:740-746, 1951.

¶ TINEA CAPITIS may be eradicated by an ointment containing 0.2% podophyllum resin in carbowax 1,500, applied twice daily for two weeks to seven months. The method is particularly useful for small lesions persisting after roentgen epilation. Frederick Reiss, M.D., and Dale D. Doherty, M.D., report that the therapy eliminated 56 of 121 infections, due chiefly to *Microsporum audouini*, and improved the condition in 19 other cases at the New York University–Bellevue Medical Center, New York City. When inflammatory reactions developed, boric acid ointment or compresses were employed; resin was discontinued, then resumed with one daily treatment.

J.A.M.A. 147:225-226, 1951.

Factors influencing resistance of skin to bacterial infection are still important despite use of specific antibacterial agents.

Pyogenic Cutaneous Infections in Children

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University of Texas, Galveston

ANTIBIOTIC drugs have revolutionized the management of pyogenic cutaneous infections in children, but older local medications have not been replaced entirely. Many factors which influence the resistance of the skin to bacterial infection continue to be of great importance despite the availability of specific antibacterial agents.

Well-established dermatologic principles, including good hygiene of the skin and local debridement, must be maintained. The importance of clean fingernails and other measures to prevent self-inoculation should be stressed to the patient.

The three preferred antibiotic preparations for local use are neomycin, bacitracin, and aureomycin. Systemic administration is usually not necessary.

For children, prompt adequate treatment of cutaneous bacterial infections is particularly important because of the etiologic relationship to acute glomerulonephritis.

Clarence S. Livingood, M.D., recommends the following treatments:

Impetigo of the newborn—The entire skin surface should be thoroughly cleansed without causing irritation; pHisoderm with G-11 is a satisfactory cleansing agent, if tolerated. Debridement consists of clipping the tops of vesicles and removing crusts.

Strict isolation should be observed. The condition is potentially fatal if not treated promptly.

Neomycin, aureomycin, or bacitracin ointment is preferred for local use. Aureomycin powder or neomycin solution may be the most effective in moist intertriginous sites.

Systemic therapy is mandatory if involvement is extensive or if local treatment does not effect prompt improvement. Penicillin is usually tried first, and followed, if ineffective, by Chloromycetin, aureomycin, or terramycin.

Impetigo contagiosa, impetiginous dermatitis, and *ecthyma*—Sparkling cleanliness of the cutaneous surface should be maintained. Crusts should be removed and pustules and vesicles opened with sterile forceps, iris scissors, soap, and warm water.

The patient should be instructed to rub the selected ointment—usually neomycin, aureomycin, or bacitracin—into the skin for at least thirty seconds three to five times daily. After application of the ointment, some areas, such as the hands, arms, or legs, may be bandaged. Cellophane or wax paper applied over the lesions prevents sticking of the band-

Pyogenic cutaneous infections in children: their modern management. Texas State J. Med. 47:469-474, 1951.

age and absorption of the medication by the gauze.

With severe and extensive lesions, complicated by cellulitis, lymphangitis, or lymphadenitis, systemic antibiotics may be advisable. Penicillin, Chloromycetin, terramycin, and aureomycin may be tried in that order.

Bullous impetigo—Therapy is the same as for impetigo contagiosa except that Castellani's paint or 1% silver nitrate may be applied. The top of each lesion should be promptly removed and the medication applied. Measures to reduce perspiration are important.

Pustular folliculitis—Each lesion should be carefully opened with the acne stilet or the hair extracted if the involvement is on the scalp. Local treatment is as for impetigo.

Compresses or soaks with 1 to 10,000 potassium permanganate solution before application of the ointment are helpful. Sometimes a drying lotion of 0.5% neomycin in neocalamine lotion is more effective than an ointment.

Furunculosis, hordeolum, and *paronychia*—The patient should be instructed to maintain scrupulous cleanliness. Neomycin, aureomycin, or bacitracin ointment should be applied to hasten healing of the furuncle and prevent satellite lesions.

Possible systemic factors, such as diabetes, anemia, and faulty nutrition, must be considered.

Penicillin administered parenterally is the antibiotic recommended for treatment of acute lesions. Chloromycetin, terramycin, and aureomycin are also effective. Staphylococcus toxoid and autogenous vaccines may be worth trial in selected cases.

Seborrheic dermatitis of the scalp and eyelids may be contributory to hordeolum and should be treated. Neomycin ointment on the eyelid margins often prevents stys.

Otitis externa (bacterial)—Neomycin applied as an ointment or in watery solution, 1 mg. per cubic centimeter, is the preferred therapy.

Granuloma pyogenicum—The condition is not common. The best treatment is destruction of the lesion, preferably with electrodesiccation, followed by local therapy as outlined for other bacterial infections.

Secondary bacterial infection of dermatoses—In general the treatment is identical with that for the impetigos. Systemic administration of antibiotics frequently is necessary for children with secondarily infected atopic dermatitis because extensive involvement often occurs.

¶ EXTERNAL EYE INFECTIONS of many bacterial and some viral types are effectively controlled by chloramphenicol. Applied locally, a 0.1 or 0.2% solution in physiologic saline has no irritating, toxic, or allergic effects. At the Bowman Gray School of Medicine, Winston-Salem, N.C., Winston Roberts, M.D., reports good results for nearly 300 outpatients with acute, subacute, and chronic conditions, including ulcerative blepharitis, nummular keratitis, follicular conjunctivitis, and purulent conjunctivitis in the socket.

Am. J. Ophth. 34:1081-1088, 1951.

Anterior resection of the rectum and pelvic colon is technically difficult and of questionable adequacy in many cases.

Surgery for Rectal and Pelvic Colon Cancer

J. ENGLEBERT DUNPHY, M.D., AND EARL G. BRODERICK, M.D.
Peter Bent Brigham Hospital and Harvard University, Boston

THE indications for anterior resection in treatment of cancer of the rectum and pelvic colon have long needed clarification.

Combined abdominal and perineal resection is generally recognized as the safest and most effective operation for arresting cancer of the lower 10 cm. of the rectum, but surgeons differ as to the proper management of cancer of the upper rectum and lower pelvic colon.

Many believe that radical abdominoperineal resection is as necessary here as for lower lesions. Others advocate an abdominal resection for cancer as low as 6 cm. from the anal canal.

Anterior resection is a technically difficult procedure, especially for the occasional operator. Local recurrence after the operation is frequent. The adequacy of the resection is sometimes questionable. Therefore, J. Englebert Dunphy, M.D., and Earl G. Broderick, M.D., conclude that anterior resection should be used only:

1] To extend the scope of resection in cancer of the lower sigmoid.

2] To avoid colostomy when hepatic or other distant metastases from cancer of the upper rectum or rectosigmoid are known, and when the local lesion can be extirpated. Unless the local growth can be widely removed, an abdominoperineal resection provides much more effective palliation.

3] To avoid colostomy in elective surgery of cancer of the lower pelvic colon and lower rectum, when a 10-cm. operative margin of normal bowel can be resected distal to the tumor, the pelvic fascia is not invaded by neoplasm, and lymph nodes are not obviously involved. This means that the neoplasm should be a grade 1 lesion and not lie below the peritoneal reflection. Best results are obtained with growths more than 15 cm. from the anal canal, not invading the fascia propria, and above the peritoneal reflection. Lymph node metastases increase the likelihood of retrograde metastases.

Final decision to do anterior resection should not be made until the rectum is mobilized. Anterior resection is justified when a hand's width of normal bowel extends distal to the neoplasm, and the lesion is not low enough to invade the pelvic fascia.

Properly executed anterior resection includes mobilization of the pelvic colon and rectum to the coccyx posteriorly and the prostate or

A critique of anterior resection in the treatment of cancer of the rectum and pelvic colon. Surgery 30:106-115, 1951.

vagina anteriorly. The same extent of mesentery and nodes is excised as in the abdominal part of a Miles resection.

The blood supply is variable and cannot be determined arbitrarily by division of the bowel at any set point. First consideration is not blood supply but adequate cancer eradication. After that has been accomplished, viability of the remaining colon and rectum is assessed.

Pulsation of vessels and color of the bowel are guides of proximal vascularity. Distally, determination of vascularity is demonstrated by adequate bleeding from the cut edge of the rectal stump. For this reason an open anastomosis without use of a crushing clamp is essential.

Carcinoma of the Sigmoid and Rectum

RICHARD B. CATTELL, M.D.

RADICAL operations for sigmoid and rectal cancer now insure at least five years without recurrence in 50% of cases.

To increase the rate of recovery, Richard B. Cattell, M.D., of the Lahey Clinic, Boston, urges prompt removal of predisposing mucosal polyps.

Sigmoidoscopy should be done during every physical examination, after a purge and cleansing enema. Premalignant growths are easily destroyed in the office by fulguration without anesthesia.

Malignant disease is overlooked during anorectal therapy in nearly one-third of cases. If bowel symptoms develop, rectal and sigmoidoscopic examinations and barium radiography are done at once.

Preoperative treatment of nonobstructive cancer requires only two to five days. After a dose of magnesium sulfate or castor oil, sulfathaladine or streptomycin is administered, and the colon is irrigated twice daily.

If the bowel is completely obstructed, the small intestine should be decompressed by a Miller-Abbott tube within forty-eight hours. If dilatation persists, cecostomy is done and the colon decompressed by tube, then opened widely and irrigated. Resection is carried out seven to ten days later.

Spinal anesthesia and primary resection of the colon with end-to-end anastomosis are most satisfactory for all types of lesions, since tumor is more often eradicated than by other methods.

The bowel is irrigated every second or third evening, allowing thirty to forty minutes. The stoma is dilated with the fingers to prevent contraction. After evacuation, the opening is covered with folded absorbent paper and oiled silk fastened with an elastic band.

Lesions of the sigmoid and rectum. Postgrad. Med. 10:122-126, 1951.

Classification of the myriad causes of bleeding from the intestinal tract is a great aid in differential diagnosis.

Diagnosis of Rectal Bleeding

FRANK S. FORTE, M.D.
St. Michael's Hospital, Newark, N.J.

THE causes of bleeding from the intestinal tract are so many that the proctologist must be well informed of the concepts of disease to make a differential diagnosis.

The source of bleeding may be readily detected through the proctosigmoidoscope or may lie beyond the reach of the scope in some other portion of the colon or cephalad to the large bowel, states Frank S. Forte, M.D.

The causes of rectal bleeding are classified as follows:

- General Conditions
  - *Blood dyscrasias*
    - Anemia
    - Leukemia
    - Thrombocytopenia
  - *Avitaminosis*
    - Ariboflavinosis
    - Scurvy
    - Vitamin K deficiency and the like
  - *Intoxications*
    - Chemical
    - Metallic: lead, mercury, and the like
    - Bacterial and parasitic toxins
    - Jaundice
- Specific Diseases
  - *Tuberculosis*
  - *Syphilis*
  - *Nephritis*
  - *Amebiasis*
  - *Bacillary ulcerocolitis*
- Diverticula
  - *Enterocolic*
  - *Meckel's diverticulum*
- Cardiovascular Disorders
  - *Hypertension*
  - *Cardiac decompensation*
  - *Chronic passive congestion*
- Inflammatory Conditions
  - *Hemorrhagic gastritis*
  - *Hemorrhagic enterocolitis*
  - *Hemorrhagic proctitis*
- Trauma
  - *Highway accidents and the like*
  - *Gunshot wounds, stabbing*
  - *Spontaneous perforation of bowel, e.g., regional ileitis, typhoid ulcer, and so on*
  - *Trauma wilfully induced by psychotics with catheters or foreign bodies*
- Mesenteric Thrombosis
- Postradiation Proctitis
- Endometriosis
- Ulcerations
  - *Focal ulcers, stomach or bowel (focal infections)*
  - *Peptic ulcers, gastric or duodenal*
  - *Specific ulcers: tuberculous, syphilitic, amebic*
- Tumors
  - *Polyps*
  - *Carcinoma*
  - *Sarcoma*
  - *Angioma*
- Miscellaneous
  - *Hemorrhoids*
    - *Varices, ampullar, sigmoid, rectal, anal*
  - *Fissures*
  - *Fistulae*
- Idiopathic

Proctologic considerations in intestinal bleeding. J. M. Soc. New Jersey 48:161-163, 1951.

Although peptic ulcer is the most common cause of hemorrhage from the upper gastrointestinal tract, blood may be lost from esophageal varices associated with cirrhosis, from gastritis, or from gastric neoplasms.

In the small intestine, bleeding occasionally occurs from a Meckel's diverticulum. Tumors of the small intestine are rare, but can produce intussusception with consequent bleeding.

Hemorrhage from single or multiple polyps of the colon, ulcerative colitis, and colon cancers must always be considered. Varying degrees of hemorrhage are found in from 1 to 22% of diverticular diseases of the colon.

Blood from the rectum of infants or children poses another problem. Polyps, intussusception, blood dyscrasias, such as Henoch's purpura, or a diverticulum may be responsible. Duplication of the alimentary tract should be considered if an abdominal tumor is found, together with symptoms of partial obstruction and blood in the stool.

Thrombocytopenic purpura, specific diseases, intoxications, cardiovascular conditions, and traumatic factors must also be recalled in differential diagnosis.

Anorectal Examination in General Practice

MALCOLM R. HILL, M.D.
College of Medical Evangelists, Los Angeles

THE technical requisites for an unobstructed view of the anorectal canal are within the scope of the general practitioner. Endoscopic examination of the rectum and lower sigmoid should be made a part of every complete physical examination, according to Malcolm R. Hill, M.D.

The lower bowel should be cleansed two hours before the examination by saline enemas until the water returns clear. Inspection, palpation, and anoscopic observation are done with the patient in the right or left Sims's position. Application several minutes before examination of a topical anesthetic in a water-soluble lubricant to the anal canal and lower rectal mucosa facilitates the procedure and permits the study of any painful lesions.

Inspection—Abnormalities of the anus, buttocks, and sacral and perineal areas are best disclosed when the patient bears down. Skin tags or external hemorrhoids indicate anal disease.

Hypertrophied skin folds present evidence of pruritus ani. The area should be carefully inspected for condyloma, fissure, painful ulcer, draining skin sinus, and pilonidal sinus. Epidermoid carcinoma is shown by an irregular hyperplasia of epithelium of the anus and anal canal.

Palpation—Examination using the

Anorectal examinations in general practice. Postgrad. Med. 9:467-476, 1951.

index or little finger and the thumb will aid in outlining the anus and anal canal.

By comparison with the corresponding opposite area, small focal lesions may be identified. Extreme sphincter spasm is indicative of anal disease. Hemorrhoidal varicosities are not discernible to the palpating finger unless thrombosed, infiltrated, or hyperplastic.

Benign stricture can usually be identified as well as foreign bodies, fecal impactions, residual lesions after hemorrhoidal injection, abscess, thrombosis, ulcer depressions, stricture, polyps, adenomatous growths, or adenopathy of the perirectal glands of Gerota. Malignant stricture usually occurs in the rectosigmoid and sigmoid colon beyond finger reach.

Anoscopy—The well-lubricated anoscope is introduced into the anal canal so that gentle pressure is made with the beveled edge of the obturator against the lateral wall of the anal canal, and the instrument is directed forward toward the umbilicus.

After the obturator is removed, the patient is asked to bear down to facilitate visualization of regional mucous membrane surfaces, crypt line, and anal canal. Any hypertrophied anal papillae or polypoid formation and the degree of varicosity are noted. Localized gland, duct, and crypt infection is verified under visual observation by expressing purulent exudate from the crypt orifice with the margin of the anoscope. Primary opening of a fistula may be detected or confirmed by gentle probing.

Sigmoidoscopy—Sims's inverted or knee-shoulder position may be employed for sigmoidoscopic study. A 10-in., distally lighted sigmoidoscope is used with a $\frac{5}{8}$-in. diameter at the distal end. The well-lubricated sigmoidoscope is carried down and forward toward the umbilicus. When the instrument is through the sphincter ring, the obturator is removed, and further passage of the sigmoidoscope is then performed under direct vision.

Suction and swabbing are employed to remove any retained liquid content and clean soiled surfaces. A saturated solution of magnesium sulfate helps relax muscle spasm. Withdrawal of the scope a short distance obviates an apparent blind pouch in the lower sigmoid, permitting straightening out of the figure "S" formation and further passage to the 10-in. level. Slight inflation allows visualization for a distance of one or more inches beyond the end of the instrument.

Observation of the mucosal pattern is best accomplished as the instrument is withdrawn, and the bowel is slightly inflated. Pressure with the distal end of the examining scope smoothes out the Houston valves, permitting observation of both upper and under surfaces. Oblique flexion of the hand holding the instrument allows complete study of the sacral curve. The patient should be asked to strain, so that any increased excursion of the sigmoid, rectosigmoid, and rectum is observed. A hidden rectal prolapse may be detected at this time. Biopsy of a cancerous growth or adenomatous polyp should be taken.

Diagnostix

Here are diagnostic challenges presented as they confront the consultant from the first clue to the pathologic report. Diagnosis from the Clue requires unusual acumen and luck; from Part II, perspicacity; from Part III, discernment.

Case MM-207

THE CLUE

ATTENDING M.D: The next patient, an 18-year-old college student, presents a perplexing clinical picture. He was admitted to the hospital two days ago because of fever and sore joints. He had been well until twelve days before, when he had a rather severe sore throat. His physician gave three injections of penicillin and the pharyngitis disappeared.

VISITING M.D: Did he have any constitutional symptoms with the sore throat?

ATTENDING M.D: Nothing but some general malaise. However, his temperature was slightly elevated for a day or so at the time. Thereafter, he felt perfectly well and returned to school.

VISITING M.D: When did the fever and joint symptoms appear?

ATTENDING M.D: About eight days later. The onset was rather sudden: malaise and feverishness, followed that evening by aching of the knees, ankles, and wrists. The next morning these joints were stiff but not swollen, red, hot, or tender.

PART II

VISITING M.D: How about past history? Any suggestion of rheumatic fever or rheumatoid arthritis?

ATTENDING M.D: None whatsoever. No pertinent information was forthcoming from the past or family histories. Since entering the hospital his temperature has varied between 99 and 103° orally. The involved joints remain stiff and painful, but no objective evidence of arthritis has appeared.

VISITING M.D: Any further developments?

ATTENDING M.D: Yesterday he awoke with periorbital edema and itching of the skin. Blotchy areas of erythema developed over the trunk and forearms. Oliguria also appeared.

VISITING M.D: What about the physical examination?

ATTENDING M.D: On admission a slight lymphadenopathy was present in the cervical axillary and inguinal areas. The spleen tip was barely palpable. Examination of the heart and lungs was completely unrevealing. The joints were painful in motion but, as I mentioned, signs of acute arthritis were not to be found.

VISITING M.D: I should like to see that skin rash. *(They enter the patient's room.)*

ATTENDING M.D: *(Later)* The rash is a macular erythema as you described. I noticed two urticarial wheels on the back of the thorax. What laboratory reports do you have?

PART III

ATTENDING M.D: The hemoglobin, leukocyte, and differential counts were all normal. The erythrocyte sedimentation rate was 6 mm. per hour. Urinalysis revealed 2 plus albuminuria and several hyaline casts per high-power field. The blood urea nitrogen was normal and so was the electrocardiogram. I suspected either rheumatic fever or glomerulonephritis coming on after a streptococcal pharyngitis. However, I cannot fit the clinical or laboratory findings into either of those categories. The normal sedimentation rate makes rheumatic fever unlikely and the absence of erythrocytes in the urine is against acute nephritis.

ATTENDING M.D: My thoughts have agreed with yours. I believe this may be another example of disease caused by therapy. Antibiotics, even penicillin, are not completely innocuous.

PART IV

ATTENDING M.D: You mean that this is an example of penicillin sensitivity? I thought those reactions occurred while taking the drug.

VISITING M.D: Immediate fatal anaphylactoid reactions to penicillin have been described. However, such catastrophes are fortunately rare. Urticaria or other skin eruptions also may develop after penicillin injections. Occasionally the full-blown picture of serum sickness follows penicillin or other antibiotic administration.

ATTENDING M.D: You think this patient is suffering from serum sickness?

VISITING M.D: Yes. The clinical picture fits that diagnosis: incubation period of one to two weeks, followed by fever, arthralgia usually without objective evidence of arthritis, pruritus, erythema, and urticaria. Lymphadenopathy is common, and occasionally the spleen is palpable. Albuminuria, cylindruria, and oliguria with periorbital or presacral edema often suggest acute nephritis. The leukocyte count and erythrocyte sedimentation rate are typically normal. Neuritis with flaccid paralysis may further complicate the picture.

ATTENDING M.D: What about treatment?

VISITING M.D: Intravenous procaine has been used with benefit. However, corticotropin now seems the treatment of choice. The acute illness seldom lasts over a week. Relapses are uncommon but do occur.

Medical Forum

Discussion of articles published in MODERN MEDICINE *is always welcome. Address all communications to The Editors of* MODERN MEDICINE, *84 South 10th St., Minneapolis 3, Minn.*

Retropubic Prostatectomy*

Comment invited from
Frank Hinman, Jr., M.D.
Joseph J. Stratte, M.D.
Lloyd Stockwell, M.D.
William Baurys, M.D.

► TO THE EDITORS: The advantages of retropubic prostatectomy as described by Drs. Edgar Burns, John R. Hand, and Arthur W. Sullivan in my opinion are:

1] The technic is easier to teach and learn than that for the perineal operation, yet it avoids the lack of surgical control inherent in the suprapubic operation since damage to the rectum and external sphincter mechanism is rare, and bleeding is controlled through direct vision.

2] Postoperative morbidity is less than after the other open procedures.

The disadvantages of retropubic prostatectomy are:

1] The operation is relatively difficult to perform if the patient is very obese or the gland is small or fibrotic and fixed.

2] The procedure does not allow proper exposure and biopsy of the posterior lamella for detection of carcinoma and, after detection, does not permit proper radical excision.

Consequently, I would use the retropubic approach for the average patient best treated by open prostatectomy (adenoma 40 to 50 gm. in weight or over) if he is not obese, ridden by long-continued chronic prostatitis, or afflicted by possible carcinoma as determined by rectal palpation.

Smaller and fibrotic glands are excised most readily transurethrally. Obese patients or those found to have low-lying prostates on surgical exposure are more easily and satisfactorily treated by a one-stage open suprapubic operation with or without primary vesical closure. Areas suspected of carcinoma should be biopsied through the perineum with preparation for radical excision.

FRANK HINMAN, JR., M.D.
San Francisco

► TO THE EDITORS: Retropubic prostatectomy is the method of choice with large benign adenomas. It is also preferable in [1] smaller glands when the caliber of the urethra, exclusive of the meatus, does not admit a No. 30F sound with ease, [2] early cancer of the prostate, and [3] poor risk cases when the caliber of the urethra is inadequate for a transurethral resection and arthritis or cardiovascular disease precludes the extreme exaggerated lithotomy position necessary for the perineal operation.

We use a transverse incision 2 cm. above the pubis. The vasa are then isolated, cut, and tied at each end

*MODERN MEDICINE, Aug. 15, 1951, p. 84.

of the incision. The retropubic space is entered through the midline. Great care is exercised with hemostasis and in cleaning off the prostatic capsule and placing packs laterally to the gland.

Next, 2 parallel sutures are placed with a short curved needle, 1 and 2 cm., respectively, distal to the junction of the bladder and the prostate. These sutures are used for traction to elevate the operative field. A transverse incision about an inch in length is made between them, through the prostatic capsule, and a line of cleavage is found with curved scissors. The scissors are also used to cut across the urethra inside the capsule. At this point the packs that were placed on each side of the prostate are removed, as well as any retractor that may have been used, and the finger is employed to continue the enucleation of the gland. This must proceed gently to avoid tearing the capsule.

When the gland has been removed, the prostatic fossa is packed with gauze and a wedge is removed from the trigone. Any hemorrhage is controlled here as well as in the prostatic cavity, from which the pack is now removed. A 24F Foley catheter is passed through the urethra and into the bladder, where the bag is distended to 25 cc. Now the traction sutures are tied, thus bringing the cut edges of the capsule together accurately, and are held as aid in placing the continuous chromic No. 0 atraumatic sutures used to obtain a watertight closure.

The wound is closed over a Penrose drain which is removed the second day. The patient is allowed to be up each day and the catheter is removed on the fourth day. The patient leaves the hospital seven to ten days postoperatively. The absence of shock and postoperative discomfort is striking, especially when compared with the old suprapubic transvesical prostatectomy.

JOSEPH J. STRATTE, M.D.
Grand Forks, N. D.

► TO THE EDITORS: Since the reintroduction of retropubic prostatectomy by Millin, numerous American authors have been quick to publish theories of experiences, usually enthusiastic and favorable in their conclusions. Recent studies by Drs. Edgar Burns, John R. Hand, and Arthur W. Sullivan recount the technic and indicate that the authors are much in favor of this approach.

I was personally privileged to observe Dr. Millin at work in London during the war; he is a masterful, resourceful, and rapidly working surgeon. His reintroduction of the retropubic approach, originally tried in 1909 by von Stockum, solved many of the problems which the latter encountered often enough to make him lose interest in the procedure at that time.

The retropubic now is a well-established approach but, like any operation, has limitations due to the physical build of the patient, the character of the prostate, and the surgical inclinations of the operator.

After some years of experience with all the accepted methods of enucleation, transurethral still remains the method of choice for me. The retropubic has been applied in a limited group of some 87 cases over

the past four years. I think Burns's suggestions on selection of patients are excellent. The retropubic operation is not suited to everybody. Difficulty has been encountered in fat patients, and there is the occasional unpredictable trouble with bleeding. Bleeding ordinarily is no serious problem, but when it is, it is more time-consuming to control at operation. Conversely, it is easier to control the usual bleeding by the retropubic route because visualization is adequate in most instances.

I have not encountered the danger of osteitis pubis, and yet it is a recognized hazard. In 2 instances there have been a marked re-elevation of the trigone requiring transurethral resection in order to produce eventual normal function. This, in spite of taking out a wedge of the bladder neck floor.

It is a good procedure, anatomic, apparently not very disturbing to the patient, and pleasing to the surgeon to do. I have, however, wondered whether it accomplishes any more than a very rapidly done transvesical prostatectomy. The latter procedure does not appear anatomic, does not appeal to the surgeon as a "nice operation," and yet produces excellent function.

In the past year we have approached the prostate by the retropubic route with the idea of radical excision in carcinoma. In a few instances it has proved very satisfactory. In 2, the disadvantages were distinct and we were not able to get all the seminal vesicles as we would have by the perineal route. In 1 instance, we applied Flocks's idea, in which the approach to a radical prostatectomy is first by the perineal route, freeing the prostate and seminal vesicles and then finishing the operation in the retropubic approach after closing the perineal wound. It seemed more cumbersome than the usual perineal radical method.

In summary, I believe all the surgical approaches again come back to the preference of the individual operator as his experience increases.

LLOYD STOCKWELL, M.D.
Kansas City, Mo.

► TO THE EDITORS: At the Guthrie Clinic, prostatic obstructions are remedied transurethrally, with few exceptions. Three years ago, the retropubic procedure was tried in a modest series of cases to observe possible advantages. After an adequate period of careful consideration, we felt convinced that retropubic prostatectomy, in certain respects, was an improvement over the suprapubic operation.

Establishing hemostasis was easier; convalescence was more comfortable and shorter. Furthermore, the technic was not difficult, and the necessary operating instruments are part of standard equipment in the average hospital.

Yet, in our opinion, the exceptionally large gland in the obese patient can be removed more easily by the suprapubic method. Under such conditions, the operation is facilitated by greater operating space. Control of bleeding in the patient with a heavy panniculus is difficult and cumbersome with either approach. Although convalescence is shorter in the patient with the average-sized gland after the newer operation, this

advantage does not invariably prevail for obese men with larger prostates.

The dreaded complication, osteitis pubis, occurs rarely after the suprapubic operation but not infrequently following a retropubic enucleation. Fear of this distressing and disabling infection discourages many urologists from accepting the newer open procedure. No satisfactory means of treating or preventing this malady have been developed.

I feel that the transurethral method in the hands of a thoroughly experienced operator is superior to any of the open operations. Consequently, we reserve open surgery for a certain few: [1] the advanced arthritic who cannot be placed in a suitable position for the operation and [2] patients with enormous prostates—weighing over 150 gm.

These impressions are submitted by a confirmed transurethral operator. Transurethral resectionists just never seem to die, in fact, they don't even fade away.

WILLIAM BAURYS, M.D.

Sayre, Pa.

Control of Seizures with Drugs*

Comment invited from
D. Naldrett White, M.D.

► TO THE EDITORS: Any article by Dr. William G. Lennox on the subject of epilepsy will always be read by his fellow practitioners with great interest and respect. His recent article on the treatment of epilepsy is no exception to this rule. Sixteen years ago Dr. Lennox reported upon the electroencephalographic findings in epilepsy; this was the first such article to appear in North America and rapidly followed upon Adrian's confirmation of Berger's original observation the year before.

Some authorities might believe that a hard and fast distinction between physiologic or idiopathic epilepsy and acquired or symptomatic epilepsy is largely artificial, since many cases of apparent physiologic epilepsy go on to develop acquired cerebral lesions and because, in cases of cerebral disease, inherited factors may play an important part in determining whether convulsions will occur.

Other authors would even link to one end of this spectrum illnesses merging into conversion hysteria. Nevertheless the distinction between these two types of convulsions would appear to be worth while in that it orders the mind of the clinician in investigating the cause of each case of epilepsy and also in directing treatment. This perhaps is one aspect of the problem upon which Dr. Lennox did not dwell.

In every case of epilepsy it is important to submit the patient to a thorough investigation even though, as Dr. Lennox has pointed out, only about 2 or 3% of all such patients are likely to benefit from neurosurgery. This relative inability on the part of the neurosurgeon to deal with a large percentage of epileptics may in part have inspired a feeling of despondency in the heart of the general practitioner. It is easy to understand a certain unwillingness to submit the patient to the rigors of neurologic investigation when

*MODERN MEDICINE, Mar. 1, 1951, p. 57.

the large majority have to be treated symptomatically.

We believe that such an attitude of despair is not justified. Even the 2 to 3% of all epileptics who can be benefited by neurosurgery add up to a very significant number when one bears in mind that epilepsy is one of the most frequent diseases seen today. Thus, the need to recognize that small percentage whose convulsions are produced by brain tumors or localized epileptogenic foci, which may respond well to neurosurgery, becomes all the more important.

Moreover, a knowledge of the etiology of the epileptic syndrome in each case is of basic importance in determining the pattern of treatment. In our hands phenobarbital has often proved the most useful drug, in small doses, for epileptiform attacks arising presumably from disease of the cortex and unaccompanied by marked inherited dysrhythmia. We tend to reserve the hydantoinates and diones for cases with electrographic dysrhythmia.

Dr. Lennox' article will be all the more welcome in drawing attention to the now formidable armamentarium available in the treatment of epilepsy. He stresses particularly the individual treatment of each patient. This we feel is a most important point. No two patients appear to respond similarly. All too often one hears of instances in which one or two drugs have been tried, often in suboptimal dosages, and then discarded and the problem has been declared hopeless.

Dr. Lennox draws attention to the long-debated increases in retarded children's intelligence quotients following the administration of glutamic acid. He ascribes this, and we quite agree, to the increased attention given to these children during the period of observation. Perhaps the early enthusiastic reports that accompany the introduction of each new anticonvulsant may be due to a similar cause. It is not unusual for 90% of patients to be reported as improved when some new anticonvulsant is tried. These figures subsequently appear overoptimistic.

But we note with interest that 90% of Dr. Lennox' 680 office patients were improved by his treatment. These excellent figures may be due to the intense individual treatment that these patients received from him, paralleled in other centers only during the enthusiastic days following the introduction of a new drug. If this is so, then 90% may well be the true figure for the proportion of patients who can be significantly helped by the energetic treatment of an interested doctor.

Not only has Dr. Lennox' article drawn attention to the formidable weapons available in the treatment of epilepsy but also to the need for practitioners to maintain an enthusiastic attitude and to persevere in refractory cases, trying new combinations of drugs in varying doses.

If an attitude of hopelessness toward this problem can be overcome, then Dr. Lennox has performed an important task. It may well be that the type of practitioner is just as important in treating the epileptic as the choice of drug.

D. NALDRETT WHITE, M.D.
Kingston, Ont.

Book Chapter

The Problem of Hyperthyroidism*

MICHAEL G. WOHL, M.D.,† AND CHARLES R. SHUMAN, M.D.‡

From the book, Internal Medicine

HYPERTHYROIDISM is a constitutional disease associated with excessive release of thyroid secretion, resulting in heightened function of every organ of the body. In some forms, as in Graves's disease, abnormal changes lead to exophthalmos.

The incidence of hyperthyroidism is greatest in young and middle-aged women, but the disease may affect either sex and occur at any age from infancy on. The ratio of women to men having the disease is 4:1 in nonendemic areas, 4:3 in endemic ones.

Neither geographic location nor race appears to have any relation to the total incidence of hyperthyroidism. The disease was reported, for example, in epidemic form in Denmark during World War II, but other belligerent areas reported a normal or low incidence.

In looking for the cause of hyperthyroidism, one is impressed by the high incidence of psychic disturbances among hyperthyroid patients and, certainly, psychiatric studies of hyperthyroid patients have discovered an interesting pattern. Emotional disturbances, resulting perhaps from domestic troubles or insecurity, seem very definitely to enter the picture of many a case of hyperthyroidism.

Oddly enough, the more violent forms of stress, such as those occurring during wartime, do not predispose to hyperthyroidism. Studies relating the hypothalamus to the function of the anterior pituitary gland tend to support the theory that certain types of stress may be significant in endocrinologic disturbances. But the cause of hyperthyroidism is still unknown. Apparently it does not reside in the thyroid gland.

The physiologic alterations associated with hyperthyroidism are not completely understood. It is known that the thyroid hormone directly influences the body cells.

To clarify pathologic physiology of the thyroid in hyperthyroidism, we shall review briefly the action of the thyroid hormone.

The use of isotopic iodine for the evaluation of thyroid function, cytochemical technics for the identifica-

* From the book, *Internal Medicine, Its Theory and Practice*, 1,563 pages. Published by Lea & Febiger, Philadelphia, 1951. $15.

† Associate Professor of Medicine, Temple University School of Medicine; Chief of Nutrition Clinic, Philadelphia General Hospital; Chief of Endocrine Clinic, Temple University Hospital.
‡ Instructor in Medicine, Temple University School of Medicine, Philadelphia.

tion of intracellular enzyme components, and improved biochemical methods for determining the protein-bound iodine (or hormone) in the blood and tissues have expanded our knowledge of thyroid physiology.

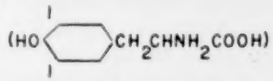
THYROID GLAND

The sole known function of the thyroid gland is the manufacture and secretion of the thyroid hormone. This hormone was named thyroxin by Kendall, who isolated it in 1919. Harrington achieved the synthesis of the hormone in 1926.

Several independent but interdigitating reactions take place utilizing iodide and tyrosine as basic materials to produce the hormone which may then be stored as colloid within the gland. These processes, the rate of which is controlled by the level of thyrotropin, consist of [1] concentrating of circulating iodide within the cells, [2] conversion of iodide to iodine, [3] iodination of the amino acid tyrosine, and [4] oxidative coupling of diiodotyrosine radicals to form thyroxin. While it is true that other iodinated proteins such as casein have marked *thyroidal* activity, the thyroid gland has evolved as specialized tissue capable of providing large amounts of iodine for the purpose of manufacturing the hormone.

The normal thyroid cells can concentrate iodine to a level 25 times that of the serum. In hyperplastic glands this thyroid : serum ratio increases markedly, 250:1. The normal gland contains approximately one-fifth of the total body content of iodine, which is estimated to be 50 mg.

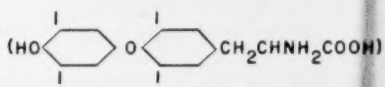
Inorganic iodide accumulated by the gland is converted to iodine by an oxidative reaction with high energy requirements. This iodine is held in the gland in a colloidal organic form and is incorporated into the tyrosine to form diiodotyrosine.



The demonstration of peroxidase within the thyroid cells has led to the belief that this enzyme is responsible for the oxidation of iodide to form iodine.

Iodination of tyrosine and the condensation of diiodotyrosine probably take place within the thyroglobulin molecule. This may occur within the thyroid cell or the colloid. Thyroglobulin is probably broken down into the active thyroid hormone by means of a protease enzyme described by E. DeRobertis. Whether thyroxin is the active thyroid hormone is not definitely established.

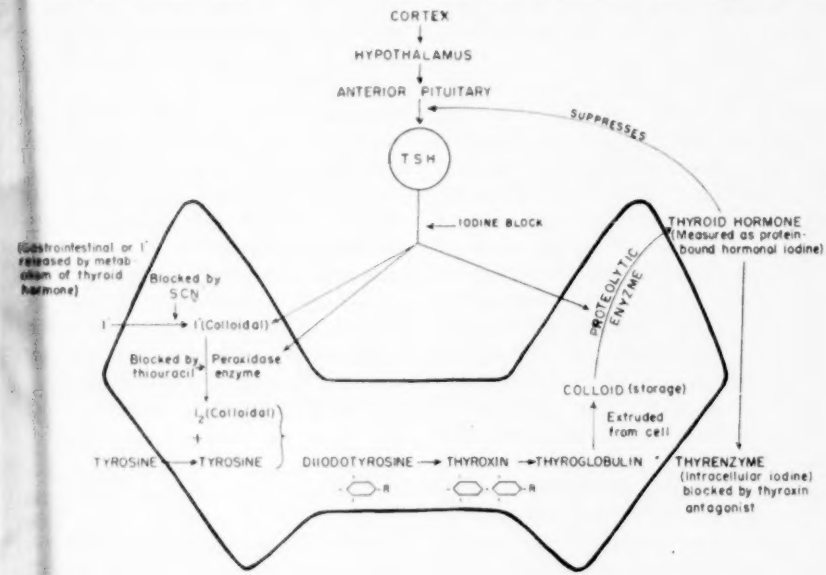
The split thyroxin molecule



is diffused through the capillary wall and, in the blood, is bound to albumin to be transported throughout the body to the tissues. A small amount may be found with alpha and beta globulin fractions in the circulation. In the tissues, the active hormone has been termed thyrenzyme (Salter).

The rate of the formation and release of thyroxin from the thyroid gland is generally held to be under the influence of the thyrotropic hor-

mone (TSH) of the anterior pituitary gland. This hormone stimulates the thyroid gland and causes it to undergo hypertrophy and hyperplasia, with increased secretion of thyroxin. Thyroxin, in turn, inhibits the output of TSH from the anterior pituitary. Hence, under normal conditions, a reciprocal regulatory relationship exists between the levels of thyroxin and the thyrotropic hormone (see illustration).



Schematic representation of the formation and release of thyroid hormone

Histology—The thyroid gland of the adult is principally composed of a dense formation of follicles consisting of a single layer of cubical epithelium. These follicles, or acini, are the secretory units in which the hormone is stored as colloid for release into the surrounding capillary plexuses. The colloid originates within the cells of the acini as small particles extruded into the lumina of the follicles. The rate of formation of these intracellular colloid particles is regulated by the thyrotropic hormone of the anterior pituitary.

The histologic appearance of the gland varies considerably with the degree of activity demanded of it: When the thyroid is stimulated, the height of the cells increases, as does the water content, and structural alterations occur in both the Golgi apparatus and the mitochondria of the cells. During secretion of the hormone, the concentration of the ribonucleoprotein decreases. If the stimulation of the thyroid is sustained, hyperplasia of the parenchymal cells occurs and pseudo-acinar and cystic formations appear in the gland.

During the resting phase of the gland these changes are reversed.

Secretion of the thyroid hormone—The thyroid gland daily secretes 0.2 mg. of thyroxin. Under stress of pregnancy or prolonged strain, however, the amount varies. When a normal amount of the thyroid hormone is secreted into the circulation each day, the so-called euthyroid state obtains.

Forms of thyroid hormone—The thyroid hormone is available in three forms—desiccated thyroid, thyroxin polypeptide, and pure thyroxin. The first two forms are effective when given orally. Thyroxin, however, has no effect when administered orally and must be given intravenously.

Clinical approach—Important features to be evaluated in thyroid disease are the size, consistency, and mobility of the gland, the presence of nodules, and the displacement of adjacent structures. Occasionally, a bruit may be detected in the hyperactive thyroid gland. This is evidence of a marked increase in the blood flow through the gland. Sometimes the bruit is accompanied by a palpable thrill. Percussion of the upper mediastinum is useful for detection of substernal extension of an enlarged thyroid.

Mirror laryngoscopy should be routine in thyroid cases, whether the patient is hoarse or not. It is especially important when thyroidectomy is considered.

The appraisal of thyroid disease must be supplemented with laboratory studies. Enlargement of the gland, for example, does not necessarily indicate disturbance in hormone secretion.

The simplest classification of thyroid disease is as follows:

Hyperthyroidism or exophthalmic goiter
- Diffuse toxic goiter (Graves's disease, Basedow's disease, Parry's disease)
- Nodular toxic goiter (Plummer's disease)

Endemic goiter
- Diffuse nontoxic goiter
- Nodular nontoxic goiter

Hypothyroidism
- Myxedema (postoperative, spontaneous, juvenile, pituitary)
- Cretinism

Thyroiditis
- Acute (suppurative, nonsuppurative)
- Chronic (Riedel's disease, Hashimoto's disease, tuberculosis of the thyroid, syphilis of the thyroid)

Thyroid neoplasms
- Benign
- Malignant

Thyroid anomalies
- Aberrant thyroid
- Thyroglossal cyst

THYROID HORMONE ACTION

The symptomatology in hyperthyroidism stems from acceleration of various metabolic processes by an excess of thyroxin.

- The thyroid hormone increases the oxygen consumption and the carbon-dioxide production of most of the tissues of the body. The increase in oxygen consumption leads to increased energy formation. This accounts for the patient's hypersensitivity to heat.
- The hormone also increases irritability of the nervous tissue. Clinical

manifestations of this are emotional lability and vasomotor activity, with sweating, flushing, and tremor.

• Thyroxin is required for normal muscle metabolism; excess of thyroxin, however, may cause hyperthyroid myopathy. The muscles become weak, atrophic, and inefficient. Lymphoid infiltration and loss of striation occur in the muscle tissues. Biochemically, the tissues lose creatine at a rate parallel to the rate of metabolic increase. Reduction of the muscles' stores of creatine phosphate deprives them of a source of high energy so that anaerobic metabolism is compromised.

• The storage of calcium is also influenced by thyroid secretion. In hyperthyroidism, there is extensive loss of calcium salts; occasionally this may lead to osteoporosis.

• The thyroid gland, among other endocrine glands, exerts an influence on protein metabolism. An excessive secretion of thyroxin increases the rate of protein catabolism. Thus, in hyperthyroidism, a high level of nitrogen excretion occurs. To prevent nitrogen loss, a high-protein intake is indicated. If adequate calories are supplied (3 or 4 times normal) depletion of protein can be prevented on the usual allowance (1 gm. per kilogram of body weight) and nitrogen balance maintained.

• In lipid metabolism a roughly inverse relationship exists between the levels of serum cholesterol and the degree of thyroid activity. But there are too many factors related to cholesterol metabolism to permit this determination to carry much weight in the diagnosis of hyperthyroid disease.

• It is believed that the thyroid increases the use of glucose by the tissues. In animals this leads to exhaustion of the hepatic glycogen after thyroxin administration. The ability of the liver to metabolize galactose may be decreased in hyperthyroidism. The usual glucose tolerance curve seen in hyperthyroidism shows a rapid drop from a high early peak. This is probably caused by an increased rate of bowel motility rather than by any primary effect of the hormone upon specific absorptive phenomena.

• Other nutritional aspects of hyperthyroidism involve the vitamins and coenzymes in tissues which may undergo marked depletion. Occasionally, such depletion results in clinical manifestations of deficiency. Requirements of thiamin, niacin, pyridoxine, pantothenic acid, and vitamin B_{12} are increased upon the administration of thyroid. Tissue levels of cocarboxylase are low in hyperthyroid animals. Administration of thiamin to hyperthyroid animals and men leads to symptomatic improvement with weight gain. Vitamin C levels in the tissues are low in hyperthyroid animals. Vitamin A deficiency is also said to occur in hyperthyroidism. But the postulated antagonism between vitamin A and thyroxin has not been proved.

The clinical effect of thyroid on the cardiovascular system is striking. The thyroid hormone increases not only the pulse rate but the stroke volume that elevates systolic blood pressure. This results in a wide pulse pressure—systolic hypertension. The rate of peripheral blood flow is enhanced and the circulation time de-

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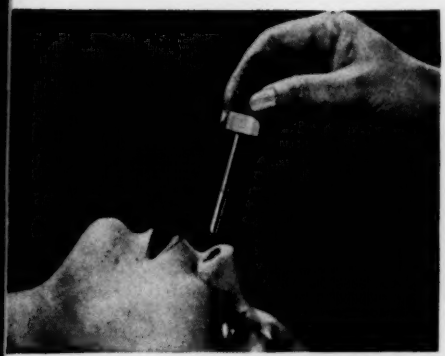

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*Thornell, W. C.: Arch. Otolaryng. 52:96 (July) 1950.

Literature on request

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creased. Peripheral vasodilatation occurs, as in beriberi. Arteriovenous oxygen differences rise above normal. These phenomena all appear to be secondary to a reflex demand made upon the heart and the circulation by the tissues. It is believed that this will gradually lead to cardiac dilatation, arrhythmia, and heart failure.

Endocrine glands—The thyroid gland may influence the other endocrine glands in several ways. The direct effect of its hormone on the functions of the cells does not exempt the cells of the gonads, adrenals, pancreas, and so on. The increased metabolic activity of these specialized tissues may lead temporarily to an increased output of their hormones. The thyroid probably influences the activity of the other endocrines through the anterior pituitary by influencing the rate of release of trophic hormones.

PATHOLOGY

The histologic examination of the thyroid gland shows hypertrophy, hyperplasia, and increased vascularity. The epithelium is tall and columnar, replacing the cubical cellular lining of the follicles, and is piled up with areas of infolding and pseudo-acinar formations. The colloid is thin and scanty, stains poorly, and has a low storage of thyroxin and iodine. The thymus and lymphoid structures tend to hypertrophy. This is associated with peripheral lymphocytosis in many cases.

The eye shows striking changes in some cases: There may be edema and deposits of fat together with cellular fatty infiltration in the extraocular muscles. Swelling of the periorbital tissues may lead to conjunctival injection, chemosis, and ulceration of cornea and conjunctiva.

The skeletal muscles show atrophy, with loss of striations; fatty infiltration is frequent, together with areas of lymphocytic deposits. The gastrointestinal tract shares in the lymphoid hyperplasia, especially in the small-bowel and appendical areas. The liver may show only loss of glycogen; chronic parenchymatous hepatitis is not so common as reported. The heart may be dilated; the myocardium shows loss of striation and fragmentation of the cells.

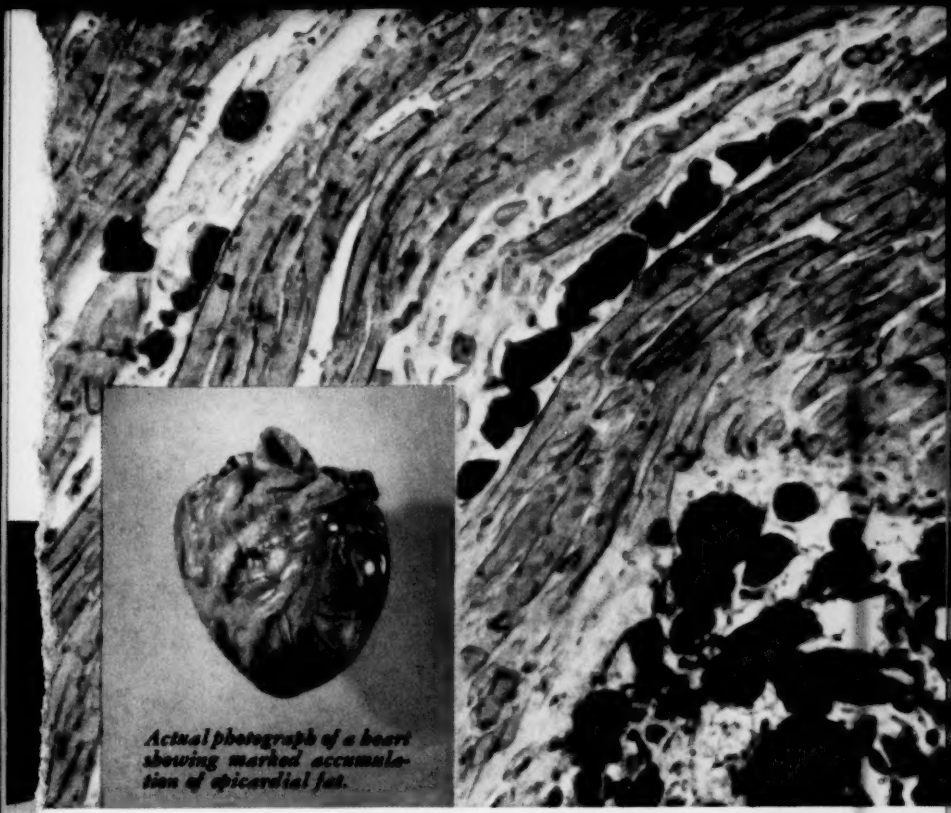
Lecompte found atrophy of adrenal cortices in patients with hyperthyroidism. There is also a decreased excretion of adrenal corticoids. However, in experimental animals with hyperthyroidism, the adrenal cortex is hyperplastic.

CLINICAL ASPECTS

The onset of hyperthyroidism may be abrupt or slow.

Symptoms and signs—The symptoms which characterize the disease are easy fatigability, loss of weight and muscle strength, tachycardia, and nervousness. The loss of weight occurs despite an increased appetite. Occasionally, because of excessive food intake, the patient with hyperthyroidism does not lose weight. The weakness may be pronounced and become so severe in the quadriceps muscles that the patient has to crawl upstairs.

The pulse rate is rapid even while sleeping. The patient may complain at first of no more than palpitation or exertional dyspnea. The nervousness is manifested in fine tremors of



Microscopic section of heart stained for fat with Sudan 4 and counterstained with hematoxylin. This section shows infiltration of fat—red globules—between the myocardial bundles. Magnification: X 135. Inset shows heart from which section was taken.

The heart of an overweight patient

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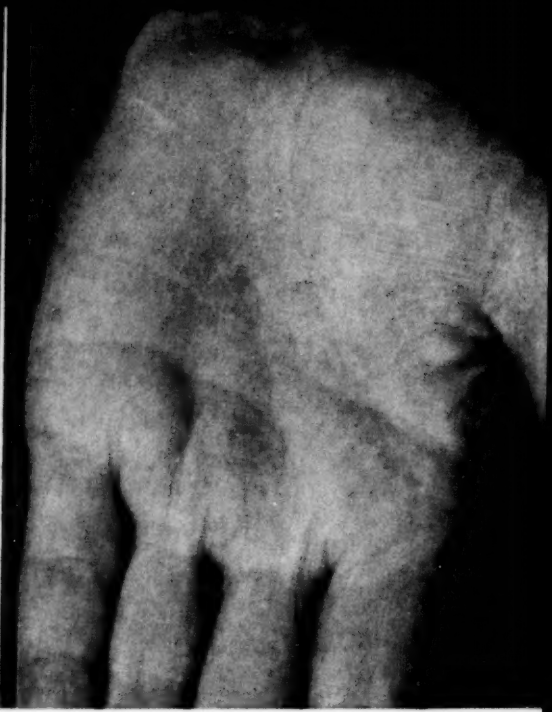
(March 8, 1950)



(April 15, 1950)

Stubborn eczematous eruption cleared in 38 days

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the fingers, fluttering movements of hands and limbs, and extreme restlessness. The patient is also emotionally unstable and cries easily. Some patients have great mental activity and cannot sleep or rest. Heat is poorly tolerated and perspiration excessive. Diarrhea is relatively frequent, although some patients may be constipated.

In men, the condition does not cause the same degree of nervousness, anxiety, and tachycardia that it does in women. Men with the disease often deny that they have any significant symptoms.

Age is an important factor. The nervous manifestations are more apparent in the young than in the elderly, though the latter clearly show the deteriorating effects of the disease.

The enlargement of the thyroid gland may be great enough to attract the patient's notice. It seldom causes pressure symptoms and may be limited to one pole or to the isthmus. Usually it is diffuse, but it may be nodular. Hyperthyroidism may exist, however, without thyroid enlargement. The gland may be small, hyperplastic, and hidden behind the neck muscles; it may even be in a partly retrosternal position.

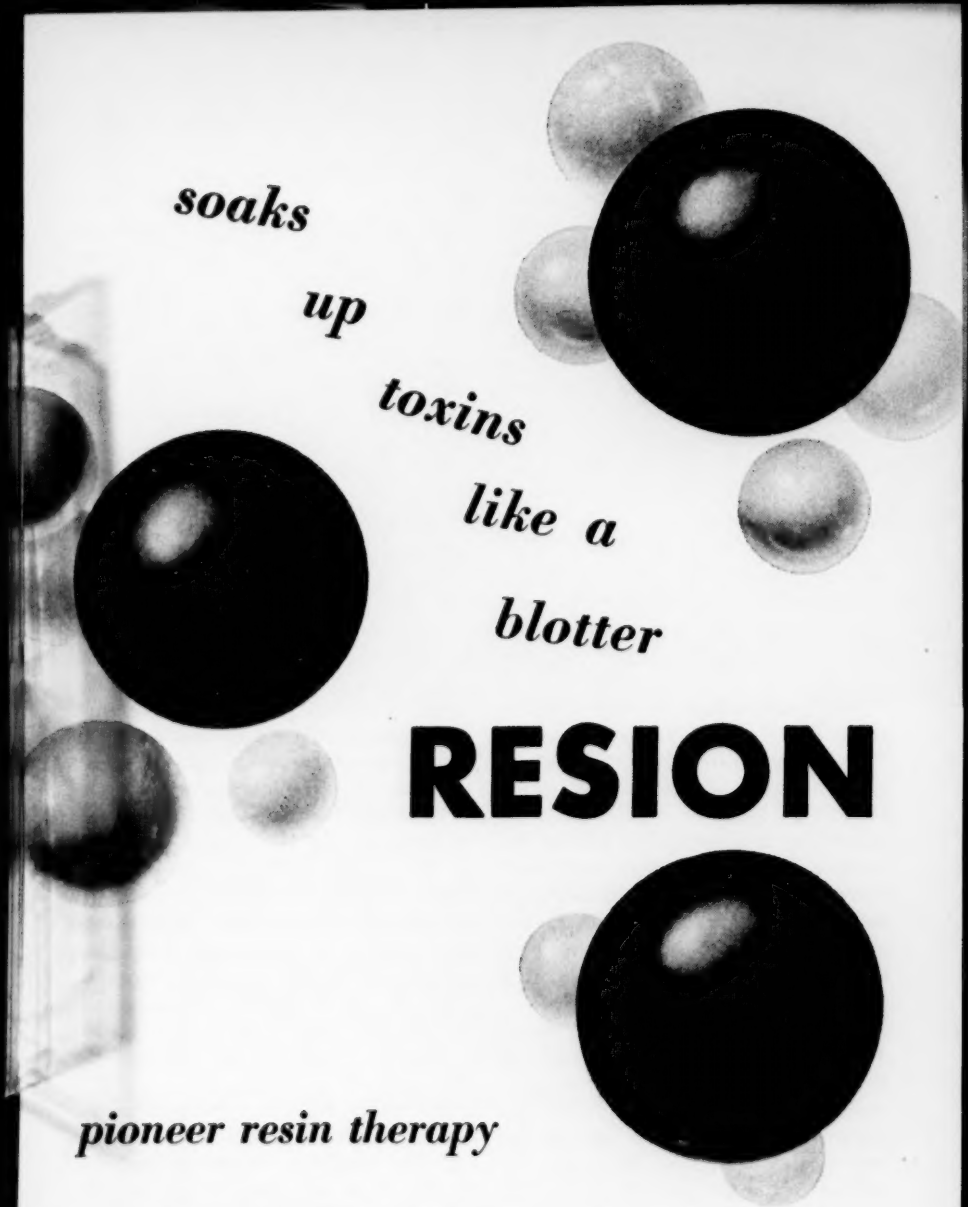
Ocular symptoms—Exophthalmos, a striking feature in some cases of hyperthyroidism, is not necessarily associated with that disease. The eye signs in hyperthyroidism are the result of lid retraction from the increased tonic activity of the levator palpebrae superioris and from muscle weakness and swelling in the retroorbital region. Both eyes may be affected. A staring expression with infrequent blinking (Stellwag's sign) and a lag of the lids as the eyes are rotated downward (von Graefe's sign) are common, as is failure of the forehead to wrinkle when the patient looks up (Joffroy's sign). Weakness of convergence is also characteristic (Möbius' sign). Symptoms of diplopia or conjunctival and corneal irritation may be present but most frequently the only eye indication is bulging. The exophthalmos is caused by the excess of the thyrotropic hormone rather than to the excess of thyroxin.

Physical examination—The patient is extremely apprehensive in expression and attitude. The skin is often silky and fine. It is warm, flushed, and moist. The hair is also fine and friable. A decrease in axillary hair has been commented upon by Williams. Increased pigmentation of the skin is occasionally seen and areas of vitiligo may be present and may antedate the thyrotoxic symptoms.

Palpation of the neck will show enlargement of the gland generally or in one area. The gland is firm; there is often an audible bruit and occasionally a palpable thrill over the gland. In other patients, the gland may be the seat of adenomas. The size of the gland is no measure of activity; sometimes a toxic gland cannot be palpated. The carotids often pulsate markedly.

In some cases, exophthalmos may be a prominent and serious feature of the condition. Hyperophthalmopathic Graves's disease with hyperthyroidism, euthyroidism, or hypothyroidism has been the designation applied by Means to the ocular

(Continued on page 128)



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RESION adsorbs and inhibits the action of many of the products of putrefaction in the intestinal tract and removes substances of endogenous bacterial origin, as toxins.[1, 2, 5, 6]

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1 Rollins, C. T., to be published.
2 Joslin, C. L.: Del. St. Med. J. **25**:35, 1950.
3 Quintos, F. N.: Philippine J. of Med. **26**:155, 1950.
4 Fitzpatrick, V. P.; Hunter, R. E., and Brambel, C. E.; Am. J. Diges. Dis. **18**:340, 1951.
5 Meyer, K.; Prudden, J. F.; Lehman, W. L. and Steinberg, A.: Am. J. Med. **5**:482, 1948.
6 Martin, G. J.: Am. J. Diges. Dis. **18**:16, 1951.
7 Moss, J. N. and Martin, G. J.: Am. J. Diges. Dis. **15**:412, 1948.

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changes observed in these patients. The degree of thyroid activity has no relationship to the severity of the exophthalmos.

The heart may manifest a strong, forceful, apical impulse. The rate is rapid and may be irregular if fibrillation is present. A systolic murmur is often heard over the precordium. No enlargement is noted unless signs of congestive heart failure or coincidental heart disease are present. The blood pressure shows elevation of systolic pressure with widening of pulse pressure. The circulation time, though reduced, may be normal or slightly prolonged when heart failure occurs.

The tongue may show papillary atrophy and redness. We have seen a typical clinical picture of pellagra evolve during active hyperthyroidism. The neuromuscular system reveals a shortened reaction time to stimuli; the deep tendon reflexes are markedly hyperactive. Muscle weakness and atrophy, however, are usually conspicuous.

Additional signs and symptoms—Jaundice and slight fever may be present. Anemia of the hypochromic type occurs in 50% of cases. Pruritus may be a severe symptom. In women, amenorrhea or oligomenorrhea is present. Glycosuria and hyperglycemia sometimes occur.

Course of the disease—Emotional factors, which often have some significance in the genesis of hyperthyroidism, are also significant in remissions and relapses. This is particularly true in diffuse toxic goiter; the disease may run a course of several years and then disappear. It may begin suddenly with severe gastrointestinal symptoms and tachycardia and, in extreme cases, usually fatal ones, acute mania, delirium, and, occasionally, genuine coma occur.

Atypical Graves's disease—Patients with atypical Graves's disease may manifest few recognized signs but show a clinical picture that resembles organic heart disease or disease of the gastrointestinal tract. They are often treated for months for these diseases without hyperthyroidism being suspected.

Wohl has emphasized the importance of "masked hyperthyroidism" which appears in the older groups of patients. In such patients, the exophthalmos is not usually found, but auricular fibrillation, angina pectoris, congestive heart failure, and paroxysmal tachycardia are common. There is less emotional instability than in most patients with hyperthyroidism, though other manifestations of autonomic nervous system derangement may be present.

Gastrointestinal complaints may dominate the clinical picture. Diarrhea is common. Nausea, vomiting, and anorexia are unusual; achlorhydria occurs in about half the patients.

Lahey has emphasized that apathetic hyperthyroid patients are those who have had a severe prostrating course without control of the disease. They manifest weight loss, extreme weakness, mental torpor, and apathy. Among the elderly, toxic nodular goiters are commoner than toxic diffuse goiters.

Another clinical variation of hyperthyroidism is manifested by severe myopathy. Many of the patients seem, superficially, to have myasthenia gra-

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CARBOHYDRATE	22 Gm.	VITAMIN A	1000 I.U.	VITAMIN C	10 mg.
CALCIUM	370 mg.	VITAMIN B_1	0.39 mg.	VITAMIN D	140 I.U.
PHOSPHORUS	315 mg.			CALORIES	225

*Based on average reported values for milk.

vis, but the differentiation can be made by identifying hyperthyroidism. Occasionally, the two diseases coexist. Cure of hyperthyroidism relieves the hyperthyroid myopathy.

In some elderly women, the bone pains of osteoporosis may be so major a symptom as to render the recognition of hyperthyroidism difficult. Hyperparathyroid disease has been suspected in such patients. However, it is probable that hyperthyroidism, alone or with postmenopausal osteoporosis, is responsible for their condition.

Thyroid crisis—an acute accentuation of the thyrotoxicosis may be precipitated by emotional upset, infection, operation, or use of radioactive iodine or adrenalin.

The condition is characterized by vomiting, diarrhea, marked hyperthermia, extreme restlessness and tremor, delirium, and collapse. The temperature may rise to 107° and the pulse be extremely rapid.

DIAGNOSIS

Clear-cut cases of hyperthyroidism are not hard to diagnose: tachycardia, weakness, weight loss, tremors, warm and moist hands, nervousness, and ocular manifestations are characteristic. Some conditions, however, simulate hyperthyroidism—neurocirculatory asthenia, menopause, neurosis, chorea, and malignant hypertension.

It is therefore most important to get a detailed history of the patient and examine him thoroughly. The response to treatment must be carefully observed.

A great aid to the diagnosis of hyperthyroidism is the Means test, in which the patient is given iodine for ten or fourteen days and kept under observation. If the condition improves, hyperthyroidism is probably the correct diagnosis. The test may be made with methyl or propylthiouracil instead of iodine.

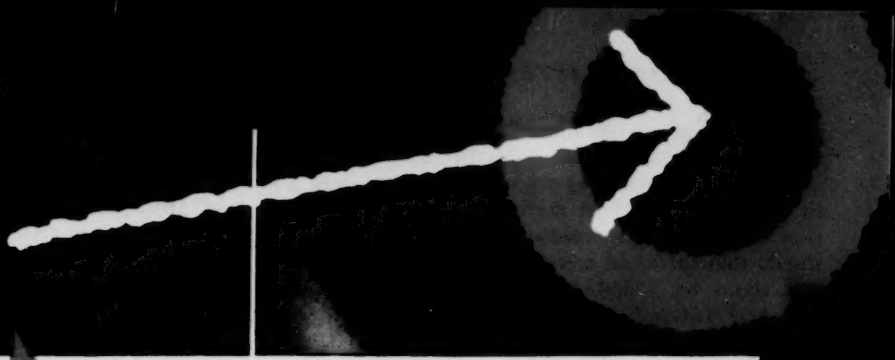
Laboratory findings—The basal metabolic rate is increased in hyperthyroidism. But the range is wide. There are some patients, for example, whose normal basal metabolic rates are on the minus side (−10 to −15). Hyperthyroidism may be present in such patients with the basal metabolic rates within normal range.

Plasma protein-bound iodine is elevated to levels above 8 μg. in hyperthyroidism. It usually ranges between 10 and 20 μg. per 100 cc. of blood, but may be as high as 30. It is not well correlated with the basal metabolic rate.

Radioiodine in diagnosis—Tracer doses of radioiodine are used for diagnosis of thyroid dysfunction because the thyroid gland traps iodine. The percentage of a tracer dose of radioiodine (40 μg.) taken up by the thyroid can be measured by a Geiger counter.

In euthyroidism, the amount varies from 10 to 35% of the tracer dose; in hyperthyroidism, the amount is between 50 and 90%; in myxedema and cretinism, between 0 and 10%. Of course, the ranges may overlap. In about 20% of euthyroid cases, the 10 to 35% range is exceeded; in about 10% of euthyroid cases, the I^{131} uptake exceeds 40%.

This means that for a few patients the results of the tracer doses are equivocal. But the clinical experi-



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ence of the physician should aid in diagnosis in this small borderline group. In an interesting study made to test the accuracy of thyroid-function tests in hyperthyroidism, it was shown that the basal metabolism test was about 67, blood-iodine test 80, and the radioiodine test 95% accurate.

The percentage of trapped iodine in the thyroid may be elevated in cases of iodine starvation and in pregnancy.

Creatine excretion is usually elevated in hyperthyroid disease, especially if myopathy is present.

Serum-lipid studies show a decrease in cholesterol levels. This, however, is not constant and may be misleading. Nevertheless, on treatment, the cholesterol concentration usually rises.

The blood count in hyperthyroidism frequently shows a hypochromic anemia and a relative lymphocytosis; the bone marrow may reflect this trend but is otherwise not abnormal.

A decreased urinary 17-ketosteroid excretion has been repeatedly shown in hyperthyroidism. But routine examination of the urine usually shows no abnormalities.

Differential diagnosis of hypermetabolic states—It is important to rule out other causes of hypermetabolism in a suspected case of hyperthyroidism. Leukemia, polycythemia, and lymphoblastomas may elevate the basal metabolic rate but do not alter the other laboratory features of hyperthyroidism. Pheochromocytoma also raises the basal metabolic rate but does not upset other findings, nor does it produce changes in the eyes or thyroid gland.

Hypertension or congestive heart failure may raise the basal metabolic rate but does not affect the other laboratory findings. Heart failure of hyperthyroid origin, however, responds poorly to digitalis.

Neurocirculatory asthenia and other neurotic states may be confused with hyperthyroidism if sweating, weight loss, tremors, palpitation, and weakness are present. Here the sleeping pulse rate is reduced; the hands are usually cool to the touch. The patient with neurocirculatory asthenia is apprehensive, fatigues easily but is able to carry on his daily work. The hyperthyroid patient is optimistic of his ability to do things but, after a few trials, is unable to continue his work.

Pregnancy will elevate the basal metabolic rate and the protein-bound iodine. The thyroid gland may become palpable, suggesting a moderate degree of increased thyroid activity. Hyperthyroidism complicating pregnancy can be diagnosed when the signs become apparent and the tests mentioned show a progressive rise.

Hyperthyroidism factitia is diagnosed by history, normal or low radioactive iodine uptake, and lack of response to the therapeutic test with iodine or propylthiouracil.

Toxic nodular goiter—Hyperthyroidism may be caused by a hyperfunctioning nodule or adenoma within the gland (Plummer's disease). Not all nodules in the thyroid gland are adenomas. Most of the nodules are the result of a hyperplastic process and have nothing to do with neoplasia.

In general, adenomas give rise to

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KNOX GELATINE U. S. P.
ALL PROTEIN NO SUGAR

no symptoms till the patient reaches middle age; then hyperthyroid or cardiac symptoms may develop. According to Plummer, in 3 out of 5 patients with nodular goiter who live to be 60, hyperthyroidism develops. The elderly patient with toxic nodular goiter presents essentially the same symptoms as the young patient with hyperthyroidism. The eye signs, however, are more likely to be associated with the latter.

PROGNOSIS

When hyperthyroidism develops suddenly, the symptoms may be extreme, the course of the disease rapid, and death the result. Hyperthyroidism, however, is usually a chronic disease; it progresses in waves, with periods of remission and exacerbation. Spontaneous cures are rare.

The hyperthyroid patient may become a cardiac invalid as the result of chronic strain on the circulation. Surgical removal of most of the thyroid gland or the prolonged use of modern antithyroid drugs or radioactive iodine will bring about a prolonged remission in the disease. If the remission lasts long enough, the disease may subside spontaneously.

TREATMENT

The management of hyperthyroidism requires [1] overcoming adverse psychologic factors, [2] adequate nutrition, [3] control of the hyperthyroidism, and [4] specific therapy for such complications as arrhythmias, heart failure, diabetes, coronary artery disease, neuropathy, avitaminosis, and exophthalmos.

Treatment is more likely to succeed if a close personal relationship is established between patient and physician. Sympathetic listening to the patient's domestic and personal problems may alleviate some of his fears and apprehensions. Some patients require a complete rest in bed. Sedatives—phenobarbital, chloral hydrate—may prove effective in controlling restlessness.

The diet in cases of hyperthyroidism should supply the patient's caloric requirements, which may be from 5,000 to 6,000 calories daily. From 1 to 1.5 gm. of protein will maintain nitrogen balance if caloric intake is equal to energy output.

Vitamin therapy is not indicated if weight can be sustained by hyperalimentation; but, since this cannot always be accomplished, vitamins of the B complex and vitamins A, C, and D are usually given to supplement the diet. The mild anemia often seen in hyperthyroid patients does not usually respond well to iron but does improve after adequate treatment of the hyperthyroidism. Vitamin B_{12} has been successful in combating this anemia, though it is a hypochromic, normocytic anemia.

Specific therapy for other complications of the disease entails digitalis for cardiac failure and quinidine for the usual arrhythmias. The response of hyperthyroid patients to digitalis in heart failure, however, is notoriously poor. Quinidine may abolish auricular fibrillation while the thyroid is still active, although it frequently fails. When the gland is quiet, however, quinidine is usually successful.

When diabetes complicates hyperthyroidism, large doses of insulin

(Continued on page 138)

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- each tablet is equivalent to one teaspoonful of the above liquid form

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One half million units of penicillin* per teaspoonful

WITH TRIPLE SULFONAMIDES 250,000 units penicillin* with 0.167 grams each sulfadiazine, sulfamerazine, sulfacetamide per teaspoonful.

TABLETS WITH TRIPLE SULFONAMIDES

may be necessary to control the blood sugar.

Definitive treatment—A few years ago definitive treatment of hyperthyroidism referred largely to subtotal thyroidectomy. The operation is still the most popular form of therapy and will undoubtedly remain so for years. But two new developments deserve consideration: [1] antithyroid compounds, such as thiouracil, and [2] radioactive iodine.

During the past five years, many antithyroid drugs have been studied. The life cycle of patients treated with them, however, has not been followed long enough to tell us what place the drugs should have in the treatment of hyperthyroidism. Most recent clinical experience with these drugs has been with propylthiouracil and methylthiouracil, but two new compounds are being investigated—mercaptoimidazole and methylmercaptoimidazole.

Antithyroid drugs presumably inhibit the peroxidase enzymes of the thyroid and so interfere with the oxidation of iodide to iodine; hence the iodination of tyrosine to diiodotyrosine is inhibited. Thyroid hormone is not produced because iodine is not available for its formation. The basal metabolic rate therefore falls and the concentration of the organic iodine in both blood and thyroid is reduced.

The patient clinically shows improvement despite a marked hyperplasia of the gland similar to that seen in the active stage of the disease. This is due to the excessive release of TSH by the anterior pituitary, which is no longer inhibited by circulating thyroid hormone.

When Lugol's solution is used in addition to antithyroid drugs, however, the thyroid gland does not lose its capacity to store inorganic iodine; hence the iodine inactivates the TSH at the level of the thyroid so that the cells in the follicles undergo resting or regressive changes. Deposition of colloid takes place and involution is said to occur. The gland becomes firm instead of vascular, as before, and is less friable. According to Rawson, iodine has a dual physiologic effect on the thyroid: [1] It inactivates thyrotropin, thereby permitting the gland to undergo involution, with deposition of colloid into acinar lumina and reduction of columnar cells to low cuboidal cells. [2] It suppresses the formation and release of thyroxin.

The antithyroid drugs are absorbed and are excreted rapidly. They should, therefore, be given in divided doses during the active phase of treatment. The drugs may be used to induce a remission in hyperthyroidism or, more commonly, in conjunction with iodine, to prepare the patient for surgery. In either case, a daily dose of between 200 and 400 mg. of propyl- or methylthiouracil is given. This dose applies to a patient of average size with a moderately toxic gland.

For larger patients or those with severe hyperthyroidism, the initial dose may have to be 600 mg. daily. For such patients, however, the maintenance dose may be reduced after a few days.

Treatment should continue for three or four weeks. The patient should then show some signs of clinical improvement. Reduction of the

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dose by 50 or 100 mg. is made gradually as the basal metabolic rate returns to normal. This may take four to seven weeks. A maintenance dose of 50 to 150 mg. daily may be used when the patient shows definite clinical improvement and a return of the basal metabolic rate to normal.

The drug is given at eight-hour intervals during the active phase of therapy, but the maintenance dose may be given once or twice daily. Continuation of drug therapy for nine to twelve months is recommended if sustained remission is sought.

With a short course of treatment, no lasting remission occurs. But, when the dose of the antithyroid drug is adequate and is given for some months after the hyperthyroidism has been controlled, a lasting remission may be expected in about half the cases. Poor response to the drug occurs if iodine is given first, the gland is nodular, or, sometimes, if the toxicity is severe.

The earliest signs of benefit are relief of palpitation, slowing of the pulse, decrease in nervousness, and a fall in the basal metabolic rate. After several weeks, a gain in weight and a return of normal muscle strength occur. It is well to keep the patient slightly hypothyroid to produce a sustained remission. If symptoms of myxedema develop and the serum cholesterol rises, antithyroid medication should be reduced and discontinued altogether if the myxedema progresses.

In the preparation for surgical treatment, propylthiouracil is the drug of choice because it brings the patient to a euthyroid state and makes convalescence smoother.

The gland may become quite vascular during this phase of therapy. Involution of the gland is then induced by iodine for a period of two weeks before the operation. The average dose for this purpose is 5 drops of a saturated solution of potassium iodide three times daily. The patient is put to little expense, is not much inconvenienced, and is kept in his ordinary surroundings.

Adverse effects of antithyroid drugs—The toxicity of thiouracil requires that patients receiving it be closely observed. Frequent examinations and blood counts should be made.

The principal complications are agranulocytosis, skin reactions, and drug fever. Severe neutropenia may develop so abruptly that the blood count may not be made in time to detect this complication. Any sign of infection, sore throat, or fever is to be taken as a warning to obtain a blood count.

If neutropenia is present, the drug should be discontinued, fluids given freely, and large doses of penicillin administered. The importance of pyridoxine, folic acid, B_{12}, and other agents of this type in increasing the white cell count has not been proved. M culopapular eruptions and urticaria are occasionally seen. Other manifestations of toxicity are neuropathy, arthritis, headache, jaundice, edema of the legs, diarrhea, nausea, and vomiting. These reactions usually occur within the first six weeks of treatment and contraindicate further use of the drugs. Occasionally, as when the sensitivity is manifested only as a skin rash, the drug may be continued.

Subtotal thyroidectomy—In case of [1] severe toxic goiter, [2] pressure symptoms and deformities, or [3] failure of patient to cooperate with the physician or recover on medical treatment, subtotal thyroidectomy is indicated.

The relative merits and disadvantages of surgery and antithyroid drugs are given in Tables 1 and 2.

TABLE 1. SURGICAL TREATMENT

Advantages

Lasting remission in more than 90%
Pressure symptoms and deformities relieved

Disadvantages

Operative mortality from 0.08 to 3%
Recurrence rate from 2.2 to 13%
Tetany incidence 1.3%
Myxedema incidence 4%
Exophthalmos frequently increased
Recurrent nerve paralysis, unilateral 0.9%
Complete cure not available

Contraindications

Hyperophthalmopathic Graves's disease

TABLE 2. THERAPY BY ANTITHYROID COMPOUNDS

Advantages

Avoidance of operation and surgical risks

Disadvantages

Lasting remission in less than 50%
Reaction incidence 1.8%
Thyroid enlargement not improved
Pressure symptoms and deformities not relieved
Frequent checkups over long periods imperative
Complete cure not available

Contraindications

Nodular goiter with hyperthyroidism
Large diffuse goiter with hyperthyroidism
Hyperophthalmopathic Graves's disease

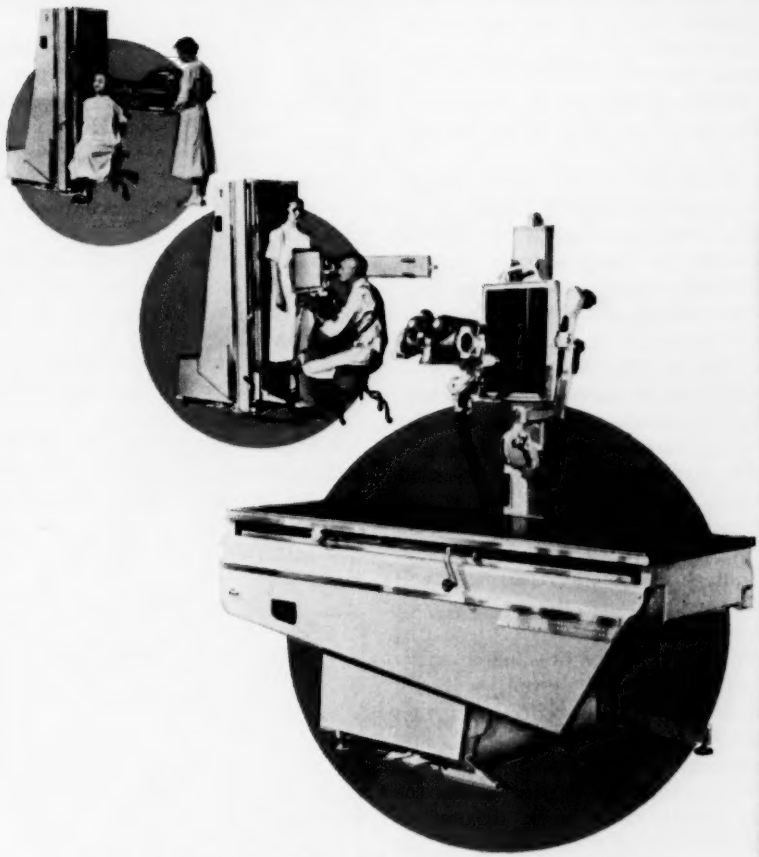
Radioiodine treatment—In most cases of Graves's disease, radioiodine therapy is very satisfactory. If the hyperthyroidism is not controlled within six to eight weeks, the patient can be treated again; several such treatments may be required.

Toxic nodular goiter, however, is more resistant to radioiodine therapy and a greater dose of radioiodine is therefore required. Under the influence of radioiodine, the diffuse hyperplasia of Graves's disease may diminish or disappear whereas a toxic nodular goiter may remain the same or diminish to only a third the original size. In general, surgery is the preferred treatment for nodular goiters.

Complications—The complications arising from radioiodine therapy are relatively few and transient. For two or three days, there may be mild thyroiditis. An increase in circulatory thyroid hormone may cause transient exacerbation of the disorder and precipitate cardiac irregularities and crisis. This may be prevented by the use of Lugol's solution following the administration of I^{131}. In about 10 or 12% of cases of Graves's disease, however, permanent myxedema develops.

Treatment with radioiodine would appear the treatment of choice for hyperthyroidism, if one could be certain that it would not ultimately prove carcinogenic. But this cannot be known for a number of years.

Treatment of exophthalmos—The



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GENERAL ELECTRIC

treatment of hyperthyroidism by surgery when exophthalmos is present frequently leads to an aggravation of the exophthalmic state. The more gradual reduction of thyroid activity by means of internal or external irradiation of the thyroid has less tendency to produce this change. The use of the thiouracils is also less apt to increase the exophthalmos.

The sudden removal of thyroid hormone by thyroidectomy permits an increase in the release of the TSH so that oculopathy is made more intense. In order to suppress the production of thyrotropin, desiccated thyroid may be given postoperatively. Thyroid hormone will diminish the effect of thyrotropin, as well as promote excretion of water and electrolytes, and so tend to reduce edema formation in the retroorbital tissues. If degenerative changes have occurred in this area, the treatment will be unavailing, for the pathology is irreversible.

Protection of the eyes is important while treatment is given; a bland ointment is recommended. The eyes must be guarded against wind, sun, and dust.

If treatment is begun within the first postoperative week, decompression of the orbit for relief of advanced exophthalmos may not be necessary.

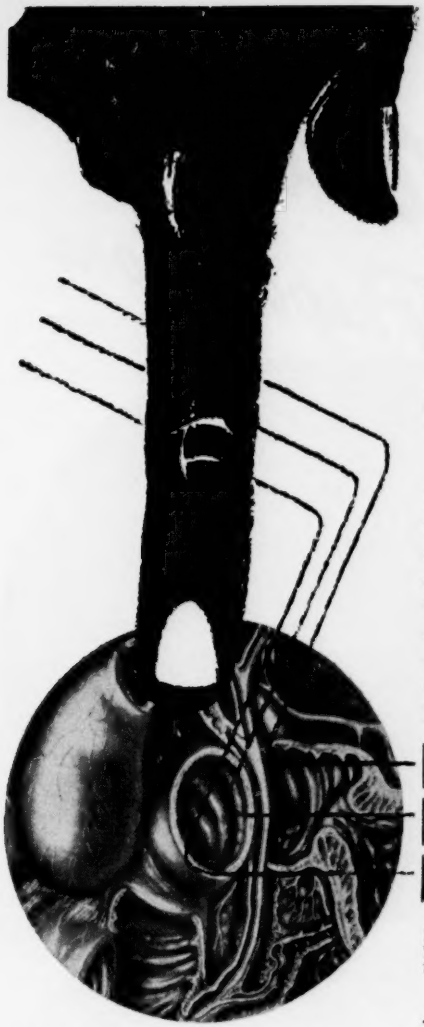
Pregnancy and thyrotoxicosis—The use of thiouracil in the management of hyperthyroidism in pregnancy has been successful.

A relatively small dose should be given in conjunction with iodine. If large doses of thiouracil are used, the fetus may develop goiter and be hypothyroid. The dose recommended is from one-half to two-thirds of the average dose for the nonpregnant patient.

Subtotal thyroidectomy after preparation with antithyroid drugs is considered by some workers the method of choice (Means). Radioactive iodine may be used prior to the fourth month, at which time the fetal thyroid will begin to accumulate iodine.

Thyroid storm—Thyroid storm is the most dramatic event in hyperthyroidism. It is treated by the application of ice to the body—and to the body cavities if hyperthermia is present. Iodine is given intravenously with glucose solution.

Adrenal cortical extract has been recommended by Pemberton. Prevention of thyroid storm through the use of antithyroid agents and adequate dietary treatment is recommended.



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*Rehfuss, M. E.: Penna. Med. J. 42:1335, 1939.

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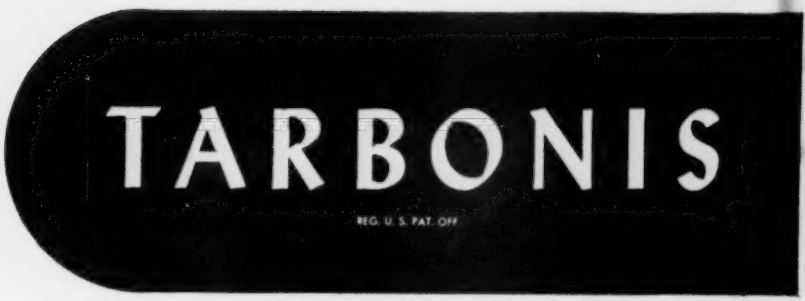

Basic Science Briefs

Biochemistry

Sodium and Potassium Rhythm

Time of day, sex, and time of life influence the sodium and potassium concentrations of human saliva. At McGill University, Montreal, samples were collected from 36 persons, aged 5 to 86 years, before each meal and before bedtime. Dr. B. Grad noted a sodium peak early in the morning, a fall during the day, and a rise at night. Potassium remained fairly constant throughout the day. The ratio of sodium to potassium did not vary significantly from day to day if samples obtained at the same time were compared. Sodium levels were higher in males than in females, and both elements increased with advancing years.

J. Gerontol. Vol. 6, no. 3, supp., 1951, p. 98.

Endocrinology

Somatotrophin and Stress

The inhibition of growth and loss of body weight induced in rats by injections of turpentine are completely prevented by adequate doses of somatotrophic hormone (STH). Apparently, the catabolic effects of turpentine injections, which cause multiple abscesses, are counteracted by somatotrophin, anterior pituitary growth hormone. Dr. Hans Selye of the University of Montreal reports that rats injected with turpentine and STH grow as much as untreated animals. These experiments suggest that in conditions of acute stress when ACTH production is greatly augmented, STH secretion may become insufficient to prevent catabolism. Responsiveness to STH may also be decreased.

Endocrinology 49:197-199, 1951.

Biochemistry

Test for Total Body Water

Antipyrine, though commonly used to estimate body water, requires lengthy analysis, since 10% is bound to plasma protein and some is metabolized. An efficient substitute is N-acetyl 4-aminoantipyrene, known as NAAP, report Dr. Bernard B. Brodie and associates of the National Heart Institute, Bethesda, Md., and New York University, New York City. Binding to plasma proteins is negligible and the value for body water may be calculated from a single plasma sample and a urine specimen. Colorimetric estimation of NAAP obviates an ultraviolet spectrophotometer.

Proc. Soc. Exper. Biol. & Med. 77:794-798, 1951.

Experimental Medicine

Atherosclerosis Macrophage Migration

Cholesterol-induced atherosclerosis in rabbits is apparently not the result of the migration of lipid-filled macrophages to the aortic intima. The macrophage migration theory was tested by Drs. John H. Simonton and John W. Gofman of the University of California, Berkeley, who labeled the reticuloendothelial cells of rabbits with ionium. Atherosclerosis was then produced by cholesterol feeding. When the distribution of radioactivity was studied, the atheromatous plaques were found to have relatively little radioactivity.

Circulation 4:557-562, 1951.

Nutrition

Serum Cholesterol and Stress

Levels of serum cholesterol may be heightened by various types of strain, such as strong emotion, heavy exercise, trauma, and infection, as well as by inherited tendencies or large amounts of animal food. At Wilhelmina Gasthuis, Amsterdam, Holland, diets containing 1.5 mg., 300 mg., and 900 mg. of cholesterol daily were given in turn to three groups, each containing 20 healthy volunteers. Serum values declined on a vegetable diet and rose with more liberal allowance but varied greatly between individuals. Dr. J. Groen and associates noticed that regardless of food, the cholesterol fall during stress and subsequent rise sometimes exceeded the changes caused by diet alone.

J. Gerontol. Vol. 6, no. 3, supp., 1951, p. 95.

Doctor to Doctor

Think of a gag that fits the illustration. For every issue a new gag is published and the author is sent $5. The Jan. 15 winner is

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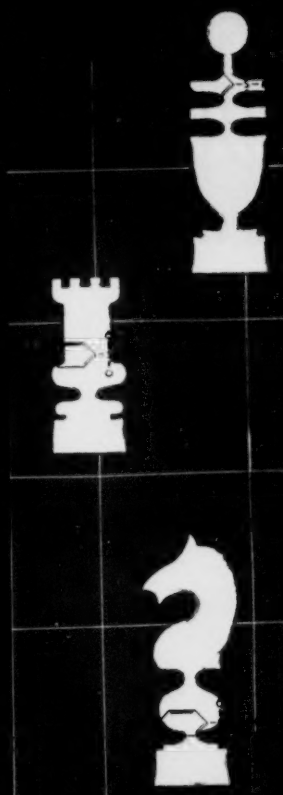
"It could have been embarrassing but I told her that sometimes we have to drop the baby three or four times before it starts to breathe."



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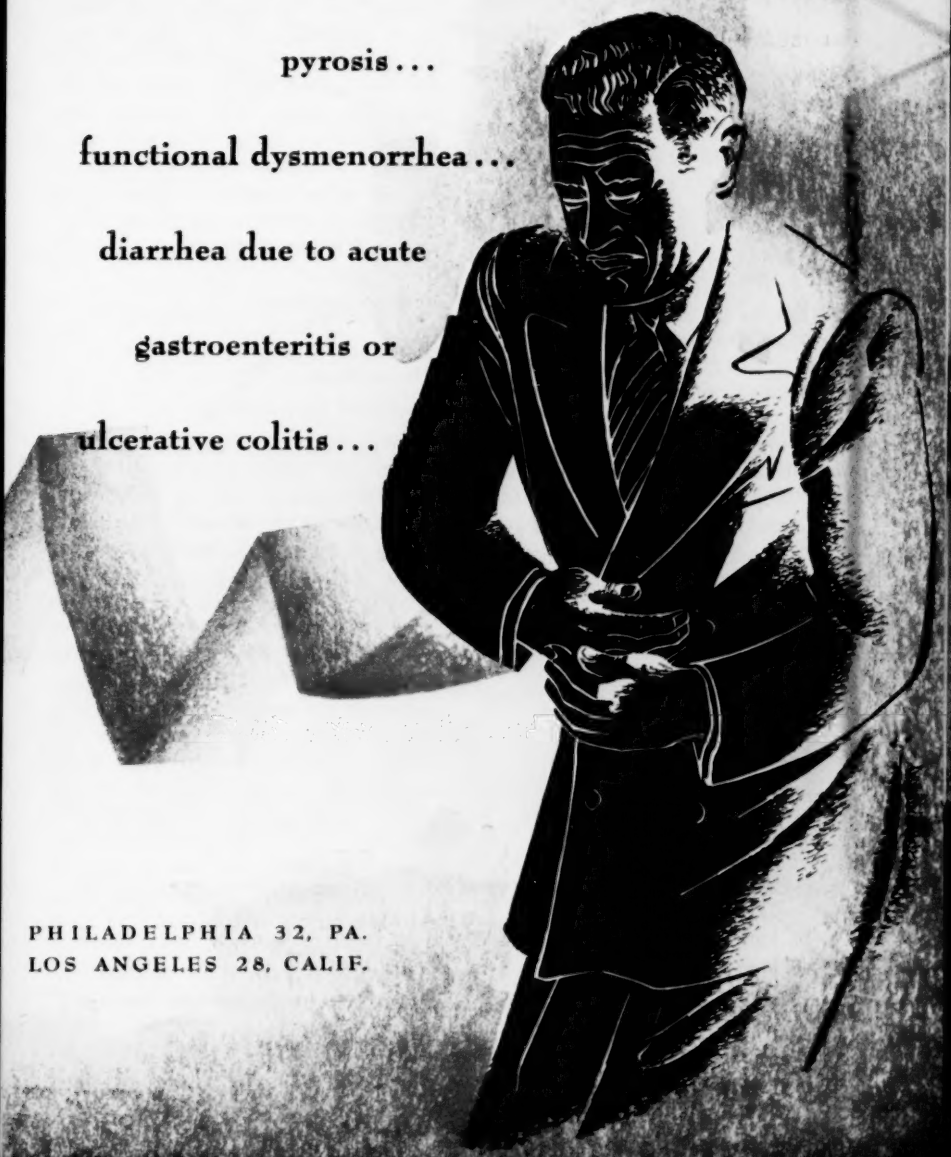

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Short Reports

Surgery

Partial Hepatectomy

Operations on the liver often fail because of severe hemorrhage. In dogs, practically a bloodless field may be provided by occluding the hepatic artery and most of the portal circulation. Continuous portal flow through a small segment apparently reduces the dangers of central hepatic closure. Drs. M. S. DeWeese and Clayton Lewis, Jr., of the University of Michigan, Ann Arbor, tried a procedure on dogs corresponding to partial removal of the right lobe in a human subject. The portal vessel supplying two or three primary lobes was permanently ligated. The common hepatic artery or a major branch was blocked up to an hour or at intervals for as long as two hours, with twenty-minute clampings and five-minute releases. Deep wedges of hepatic tissue were resected and no antibiotics given. The only physiologic disturbances noted in six months of postoperative observation were slight decrease in serum albumin and a minor elevation of portal blood pressure.

Surgery 30:642-651, 1951.

"You get this prescription filled at the butcher shop."

Pharmacology

Carbinol Hypnotic

Dormison, or 3-methyl-pentyne-ol-3, one of the simple unsaturated aliphatic carbinols, is a highly efficient hypnotic. Dr. S. Margolin and associates of New York Medical College, New York City, find that the drug is without toxic effect and does not cause side reactions. An oral dose of 200 to 300 mg. brings sleep to adults in less than one-half hour. Dormison possesses no analgesic, anesthetic, or antispasmodic action and does not depress respiration even when given in large amounts. Parenteral caffeine causes rapid recovery from the deep hypnotic state induced by overdoses. Liver, kidney, and bone marrow function remained normal after daily administration of the drug for more than six months. In animals 70 times the usual human dose produces no gross or micropathologic change.

Science 114:384, 1951.

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Metabolism

Treatment of Hypopotassemia

Potassium gluconate is preferable to potassium chloride for treatment of the hypopotassemia of diabetic acidosis, infantile diarrhea, and surgery. The innocuity of the gluconate anion is evident from the long use of calcium gluconate in the therapy of tetany. Dr. Adolph Bernhard of Lenox Hill Hospital, New York City, recommends 20 cc. of a 30% solution for use in parenteral infusions. This amount contains 1 gm. (25.5 mEq.) of potassium. For oral administration, the solid salt may be mixed with orange juice, tea, or other beverage; 1 gm. of solid potassium gluconate is equivalent to 167 mg. (4.2 mEq.) of potassium.

Science 113:751, 1951.

"I suppose I can consider myself fortunate that I found you in, Doctor?"

Public Health

Cost of Chronic Illness

Prolonged disease forces more people into public care than any other single factor except economic depression. Fully 6.5% of the population are chronically ill and 1.5% are invalids, yet early treatment could arrest or cure disorders for 20% of patients. Dr. R. M. Hilliard of the Welfare Council of New York City predicts that the already tremendous cost of chronic invalidism will more than double in the next thirty years unless the trend is reversed. Research, treatment, and rehabilitation should be intensified.

J. Gerontol. Vol. 6, no. 3, supp., 1951, p. 105.

Antibiotics

Terramycin for Pinworms

For treatment of enterobiasis, terramycin HCl is usually more effective and better tolerated than gentian violet. An adequate initial dose of the antibiotic is most important. Dr. Helen S. Wells and associates of Columbia University, New York City, find that, for adults, 500 mg. of terramycin every six hours for two days usually eradicates the worm. Then 250 mg. is given four times daily for two days, with 250 mg. daily as a maintenance dose for two more weeks. However, a maintenance dose of 250 mg. per day was not effective in preventing reinfection in one family. Of the 61 patients treated with terramycin, pronounced or slight diarrhea appeared in 25 during therapy, but most patients preferred the antibiotic to gentian violet.

Antibiotics & Chemother. 1:299, 1951.

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Antibiotics

Hemorrhagic Pancreatitis

A fatal and perhaps avoidable factor in acute hemorrhagic pancreatitis is invasion of the inflamed gland by intestinal organisms. Life may be saved by antibiotics, particularly oral doses of aureomycin, find Dr. Lester Persky and associates of Beth Israel Hospital and Harvard University, Boston. Lethal acute hemorrhagic pancreatitis was regularly produced in dogs by injection of 10 cc. of bile into the pancreatic duct. All the animals survived if aureomycin was given orally for several days before or after injection, but only 40% of dogs lived that were given intravenous aureomycin or intramuscular penicillin therapy. In the fatal cases, great numbers of *Clostridia* were found in the liver and pancreas, peritoneal fluid, and portal vein blood. When clostridial antitoxin was given preoperatively, 60% of the immunized dogs survived.

Surgery 30:652-656, 1951.

Radiology

Oral Cholecystography

Telepaque, an ethyl propanoic acid compound, is a convenient medium for accurate oral cholecystography. Cholecystograms are of greater density after a shorter interval than with other cholecystopaques. Drs. Wendell G. Scott and W. A. Simril of St. Louis have used Telepaque in 65 unselected cases with excellent results and no unfavorable reactions. The recommended dose is 4 tablets of 0.5 gm. each for patients weighing under 150 lb. and 6 tablets for heavier persons.

J. Missouri M. A. 48:866-870, 1951.

Cardiology

Operation for Heart Strain

In acute pulmonary stenosis, overstretching of the right myocardium may be prevented by puncture of the interatrial septum. The small shunt acts as a safety valve to relieve strain, yet allows little venous blood to escape into the systemic circulation, find Drs. Gerhard A. Brecher and David F. Opdyke of Western Reserve University, Cleveland. The pulmonary arteries of dogs were clamped by degrees, and the pressure in the heart chambers was measured before and after septal defects of various sizes were produced. Although small openings did not greatly alter interatrial pressure relations, a defect exceeding 1.5 or 2 cm. practically converted the two auricles into a single chamber. Obviously, no benefit could be expected to result from use of a large shunt.

Circulation 4:496-502, 1951.

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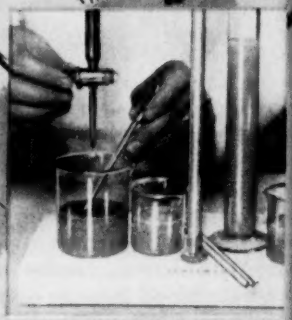

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Long welcomed in home and institutional kitchens for its convenience, economy and flavor—*frozen* citrus is now acknowledged the "nutritive equal" of fresh. The Council on Foods and Nutrition of the American Medical Association has declared* that—under modern processing methods—approximately 98 percent of the vitamin C content can be retained in the frozen concentrated juice. And, when properly stored (below its freezing point), there is practically no loss of vitamin C. Frozen citrus can thus be confidently recommended for diets at all ages, including infancy.

**J.A.M.A. 146:35, 1951.*

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Hematology

Blood Replacement

The best treatment for massive gastrointestinal hemorrhage is probably a rather small transfusion of blood. The replacement may start free flow or oozing from a fresh natural clot, but bleeding usually stops even while blood pressure is rising. Up to 170 mm. of pressure may be successfully withstood by fresh clots and 200 mm. by a clot eighteen hours old, find Dr. Adolph Sachs and associates of Creighton University, Omaha. The mesenteric arteries and veins of animals were severed, then thrombin or trichloracetic acid was applied or spontaneous coagulation was permitted. In 6 of 10 instances, rise of blood pressure was greatest after amounts corresponding to 500 cc. of whole blood in a man weighing 70 kg. With larger transfusions increments in blood pressure decreased, as a rule. In 1 instance, immediate complete replacement of the loss produced fatal dilatation of the heart.

Gastroenterology 19:113-117, 1951.

Oncology

Radioactive Gold for Cancer

Pelvic carcinoma beyond the reach of other agents may be irradiated by colloidal gold injected in pectin solution that enters regional lymph vessels and nodes. The procedure may be used as a supplement to surgery and deep roentgen or radium treatment. Dr. Alfred I. Sherman and associates report use of gold therapy at Washington University, St. Louis, for 10 women with cervical cancer, 1 with carcinoma of the vulva, and 2 with metastases to inguinal nodes. Radiation from the gold consists almost entirely of beta rays with short range; no chemical or physical toxicity results. From 50 to 60 cc. of colloidal gold may be introduced into each parametrium through the vagina. A No. 22 spinal needle is inserted near the cervix, piercing the mucosa and Mackenrodt's ligaments, then turned 20 to 30 degrees from the midline to approximate the pelvic wall. The syringe is then attached, and gold is injected as the needle is slowly withdrawn. Uniform dispersion is provided by three sites on each side and, if necessary, by injection directly into the cervix. Patients can return to work the next day. At later operation, gold deposits are seen in the parametrium, and irradiation effects are noted there and in the corresponding lymph nodes. The metal infiltrates outlying irremovable tissues far laterally on the pelvic wall and close to vital organs.

Am. J. Roentgenol. 66:624-638, 1951.

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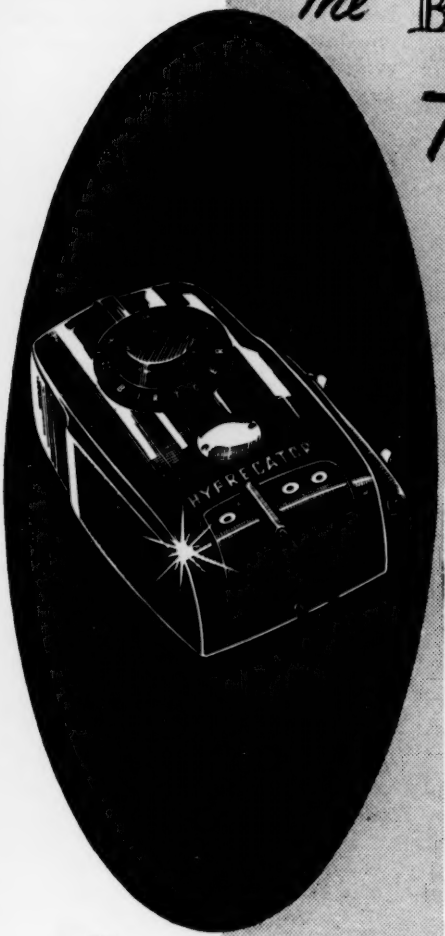

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Nutrition

Congenital Deformity

Vitamin deficiency in critical periods of fetal development produces a number of abnormalities. By depriving pregnant rats of folic acid, Dr. Herbert M. Evans and associates of the University of California, Berkeley, induced the malformations related to shortage of vitamin A, riboflavin, or B_{12}. A deficit within nine days after breeding resulted in fetal death and resorption, and if delayed to the eleventh day, in stillbirth and retarded growth. Transitory shortage for two or three days between the ninth and fourteenth days produced syndactylism, polydactylism, cleft palate, harelip, cranial and eye deformity, and abdominal hernia. Less acute vitamin lack on days seven to nine had the most severe cranial effects observed, including anencephalus.

Science 114:479, 1951.

Circulation

Oxygen for Coronary Occlusion

Inhalations of high concentrations of oxygen probably diminish the extent of myocardial necrosis after coronary occlusion in human beings. Ischemic areas are measurably decreased, as indicated by polarography. Dr. J. J. Sayen and associates of the University of Pennsylvania, Philadelphia, determined oxygen availability with several platinum electrodes in the left ventricular muscle of dogs. When pure oxygen was inhaled after coronary occlusion, readings from areas outside the anoxic region promptly rose, little change occurred in the central ischemic portion, but in border areas one-third of the initial loss was regained in two-thirds of cases.

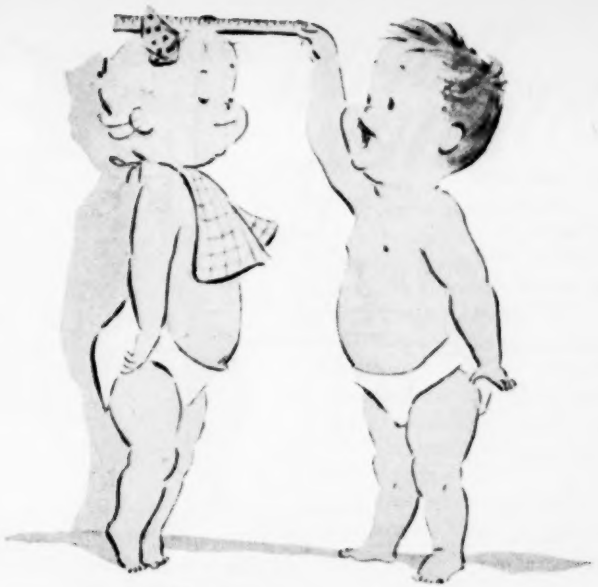
J. Clin. Investigation 30:932-940, 1951.

Geriatrics

Metrazol and Arteriosclerosis

For treatment of senile arteriosclerosis, Metrazol (pentamethylenetetrazol) is an effective analeptic agent. Elderly patients with arteriosclerosis are often mentally confused as well as bedridden, so that management is extremely difficult. When 1½ to 6 gr. of Metrazol was given four times daily, some improvement occurred in all but 6 of 32 aged patients with arteriosclerosis studied by Dr. Eugene Joseph Chesrow and associates at Cook County Institutions, Oak Park, Ill. Metrazol had no unfavorable effects on blood pressure. The increased feeling of well-being experienced by these patients is probably due to relief of anoxia by respiratory stimulation and to improved synaptic transmission.

Geriatrics 6:319-323, 1951.



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Experimental Surgery

Gastric Resection for Ulcer

The usual operation for gastric ulcer, in which three-fourths of the stomach including the entire gastrin-containing segment and much acid-secreting tissue is removed, can be improved by retaining only 10% of the total gastric area in the fundic segment. The procedure most effective of several performed on dogs requires resection of 75% of the acid portion, leaving about 10% of the entire stomach to be anastomosed to the intact antrum as the residual upper fundic pouch. Using this method at the University of Minnesota, Minneapolis, Dr. Frederick S. Cross and associates found that animals were protected from histamine-provoked ulcer. Segmental resection leaving 25% of the stomach, with or without vagotomy, allowed ulcer to develop.

Proc. Soc. Exper. Biol. & Med. 77:689-692, 1951.

Angiology

Lipoproteins and Atherosclerosis

Deficiency of heparin or a like substance may be a factor in the lipid metabolic defect responsible for atherosclerosis. The explanation is offered by Dr. Hardin B. Jones and associates of the University of California, Berkeley, after an ultracentrifugal analysis of serum lipoproteins. High levels of the molecular class with 12 to 20 Svedberg flotation units are associated with atherosclerosis and also may indicate an early recurrence of myocardial infarction. Values of 50 mg. per cent S_f imply recurrence within a year in about 6% of cases, and 110 mg. in about 18%. Extremely high S_f 12-20 levels in the acute stage reduce chances of survival. However, a low-fat, low-cholesterol diet protects the group with a previous range above 80 mg. per 100 cc. The only drug that lowers the value rapidly is heparin administered parenterally.

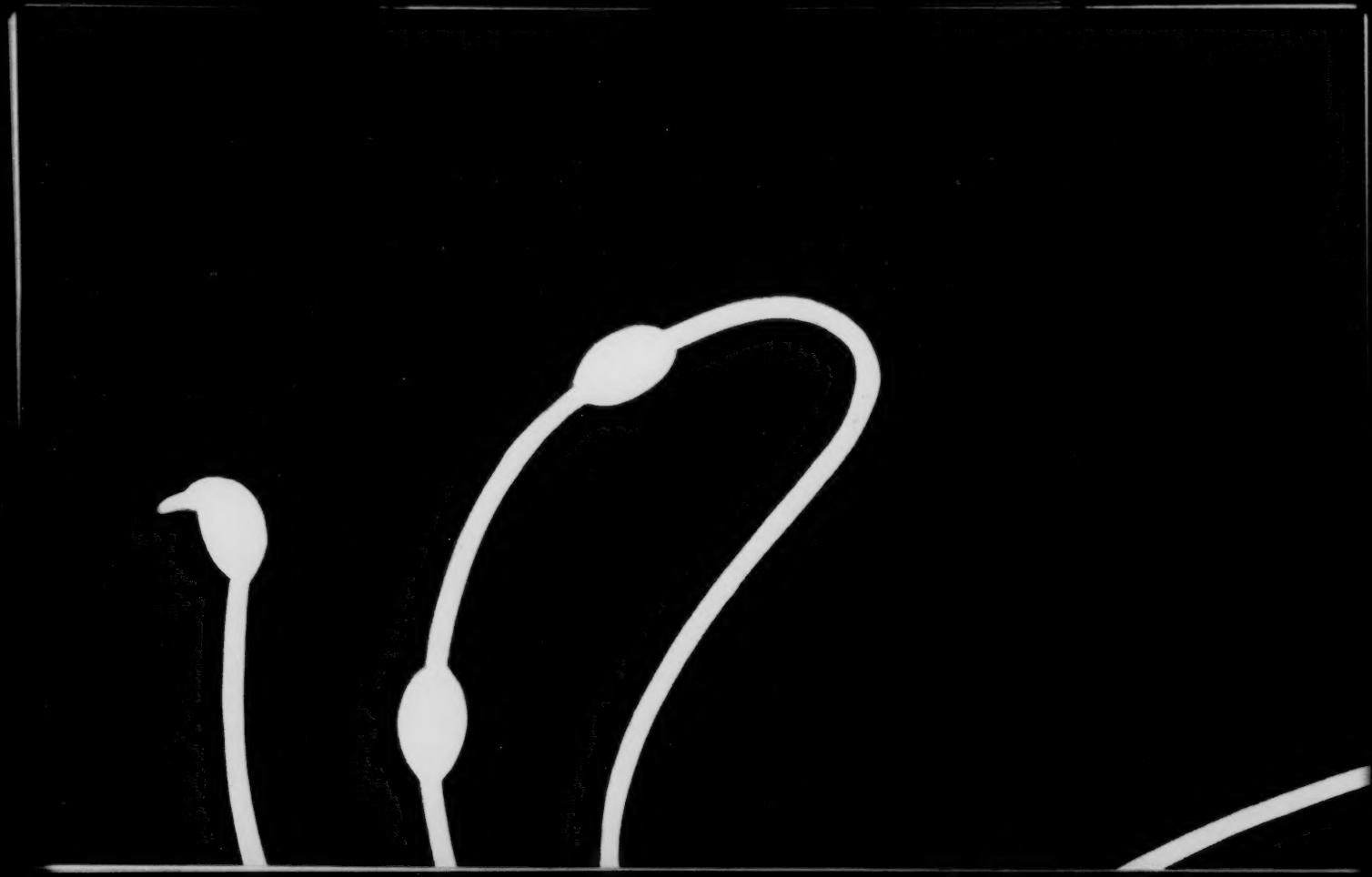
Am. J. Med. 11:358-380, 1951.

Endocrinology

Metabolism of Compound F

When the normal human adrenal is stimulated by exogenous ACTH, compound F is probably the chief hormone secreted. After administration of the adrenal steroid alone, Dr. Jerome W. Conn and associates of Ann Arbor, Mich., observed retention of sodium, chloride, and water; potassium diuresis; sharply negative nitrogen and sulfate balances; and great loss of carbohydrate tolerance, with glycosuria, uricosuria, rapid hemodilution, and disappearance of circulating eosinophils. Urinary excretion of 17-ketosteroids and formaldehydogenic steroids increased, while acne and moon face developed in two to four days. Free compound F was extremely active in both oral and intramuscular doses, but the acetate was equally potent only if given by mouth.

Proc. Central Soc. Clin. Research 24:23-24, 1951.



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*Kramer, P. and Ingelfinger, F. J. Med. Clin. North Amer. 32:1227, 1948.

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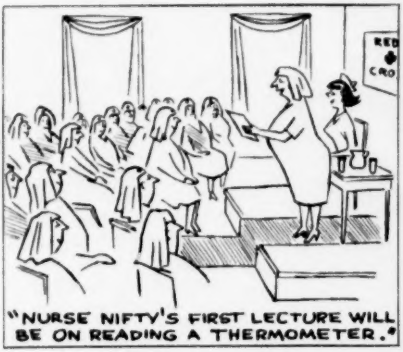

Washington Letter

(Continued from page 59)

total U.S. expenditure for health and hospitals is about $1.8 billion. Mr. Staats related that more than 25,000,000 persons now receive or are eligible for some sort of medical care from the federal government. Included are war veterans, various wards of the government, and civilian employees of federal departments. But, indicated the official, there will be no more expansion at this time.

"I would be less than candid not to admit at this point," he said, "that the outlook is not bright for any material easing in the restrictions now applied to domestic programs."

Then Mr. Staats made these points:

- First, the expansion of basic health programs of the federal government will be limited to those contributing directly to national defense.
- Second, the states should continue their efforts to reorient health programs to needs arising from the emergency. Programs will have to be appraised continually in the light of such needs. In our governmental system, public health is basically a state and local responsibility, and it is through the state and local health services, whether assisted by federal funds or not, that the nation will have to meet challenges created by the defense emergency.
- Third, it seems inevitable that the continued growth and development of health services that might have been possible under more favorable conditions will be slowed down considerably. This is one of the many serious losses that we have to sustain because of the troubled world in which we live.

Mr. Staats did not stop there. He suggested some of the complications and duplications encountered in federal grant-in-aid programs to states and proposed that the whole fabric be subjected to a careful review. He said that health grants should be reviewed and re-evaluated in terms of specific objectives—to see whether they are wandering too far from the stated purposes as defined by law. He also said that some thought should be given to attaining more uniformity and simplicity, "more adequate safeguards for the federal government, and more definite state-local responsibility for operations and for adaptations."

Mr. Staats noted that some federal laws permit "or even require" an unnecessary amount of federal interference in state operations. Others

". . . then I said, 'Why Mrs. Van Hoosear, you're like a new woman.' And she was. Old Van Hoosear remarried."

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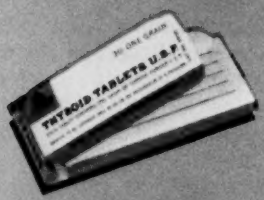

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are so restrictive as to leave the federal officials no discretion in checking on the flow of federal dollars.

His recommendation was that the federal administrator should have "enough authority to make sure the national interests are protected, but not so much authority that coercion is substituted for cooperation."

Washington Notes

States, including some which may need the protection the most, now are holding up civil defense stockpiling. Federal Civil Defense Administration is attempting to get them to hurry up with plans for local medical supply depots, for which the United States would pay half the cost.

American Legion is encountering some delay in its survey of the nation's medical facilities, but hopes to have the study completed by early summer. The objective is to pinpoint areas where veteran population would warrant construction of VA hospitals and where medical facilities would make such hospitals practical.

National Science Foundation, operating on funds voted in the last session of Congress, has set up a program of 400 graduate fellowships, including a number in the medical sciences.

Federal Civil Defense Administration has recommended against a mass nation-wide blood-typing program. Instead, it favors selective group-

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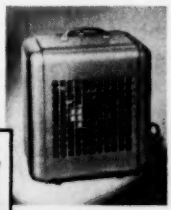

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ing plans, with large reservoirs of type 0 volunteer donors both within and outside target areas. CDA is afraid that any attempt to give specific blood group transfusions in the first twenty-four to seventy-two hours after an attack would greatly complicate the problem for first-aid stations and hospitals.

FSA Administrator Ewing, in his address to state and territorial health officers, dealt exclusively with the problems of the aging. However, he did not mention his proposal for hospitalization, at government expense, of social security recipients beyond 65.

Dr. John Knutson, pioneer PHS leader in water supply fluoridation, says that at the present rate it will take the country 150 years to fluoridate all community supplies. His guess is that the job can be done in about five years if a little more effort is expended. National Research Council, incidentally, has formally approved fluoridation, although cautioning that the operation must stay in scientific hands.

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*Egg-nog nutritive values from Bowes, A. de P., and Church, C. F.: Food Values of Portions Commonly Used. Philadelphia, 1944; fifth edition.

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GOITRE ET PATHOLOGIE THYROIDIENNE *by* Lucien Brull. 107 pp., ill. Masson & Co., Paris. 550 fr.

DIE GEWÖHNUNG AN NICHT-ANTIGENE GIFTE *by* Karl Bucher *and* Robert Doerr. 92 pp., ill. Springer-Verlag, Vienna. 42 Sch.

GRUNDRISS DER INNEREN MEDIZIN *by* Alexander von Domarus; *revised by* Hans von Kress. 21st ed. 735 pp., ill. Springer-Verlag, Berlin. 27 DM.

MALADIES DE L'ESTOMAC, DE L'OESOPHAGE ET DU DUODENUM *by* Pierre Hillemand. 894 pp., ill. E. Flammarion, Paris. 4,800 fr.

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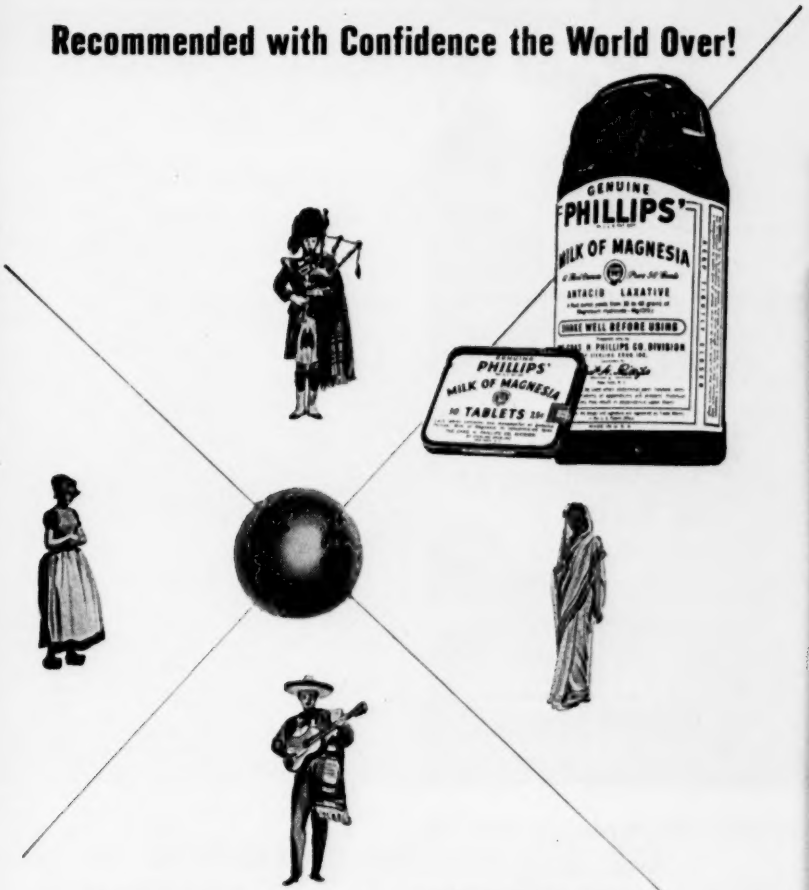

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Life is a Melody

One of my patients in her early twenties accused me of being an old fogy, out of touch with the world.

"I'll bet you couldn't even name four popular songs," she said.

I admitted that she was right, and, falling into her trap, said I supposed she could.

"Certainly," she replied, *"Because of You, I Get Ideas, Come on 'a My House,* and *Sin."*—W.L.W.

"Tell me," said Probie, "if blood in the arteries is arterial, is blood in the veins venereal?"—J.B.

Vial Job

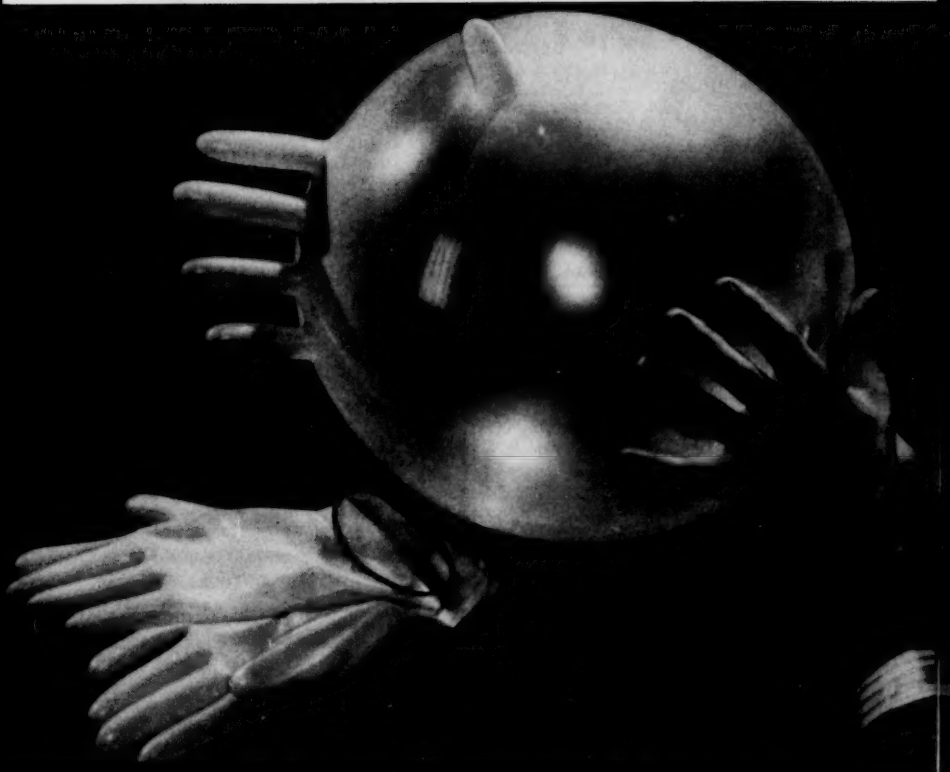
In answer to a call, I went over to the station house one evening to examine a prisoner picked up for drunkenness. The sergeant wanted me to verify the fact that the man was intoxicated. Obviously the man was in a stupor, but not from drink.

I turned to the sergeant and said, "This man isn't intoxicated, sergeant, he's been drugged."

Whereupon the arresting officer stepped up and declared defensively, "Only a little, doc. He wouldn't walk, but I only drug him the two blocks to the station."—J.T.

"Can you come right over, Doctor? I've had this cold two weeks, and it isn't getting any better."

B.F.Goodrich



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A Bum by Any Name

One of my patients complained of insomnia. I tried a little psychotherapy and I guess it worked. The next time I saw her she said that sleep was no longer a problem for her.

"It wasn't more than a minute after I got in bed last night," she said, "before I was sound asleep in the arms of Morphine."

"That's fine, Mrs. White," I said, "but I think the name is Morpheus. Morphine is a dope."

"Yeah?" she replied, "and do you know of a bigger one than my husband?"—S.M.

"The doctor," complained the Stylish Stout, "told me I was exceeding the feed limit."—G.G.

Persistent Knocker

I had just examined a farmer's wife when her husband came into the office to get her.

"I have good news for you, Josh," I said, "your wife is going to have a baby."

"Hain't surprised, doc," replied Josh. "She's had plenty of opportunity."—N.J.H.

N.S.F.

A few days after the bank in Centralia was robbed, one of my Centralia patients came in. He had had several office calls but never once had he offered to pay his bill. I was somewhat amused, therefore, when he said, "Doc, I ain't feeling so pert again, and you gotta fix me up. I know I owe you, but my bank was robbed last week and I can't pay till they get the loot back."—G.H.

A Winter Garden

See the double pneumonias, they're in their choicest bloom
And the persistent perennial coryza will blossom very soon.
There's the hardy yellow jaundice with petals of deepest gold
Beside the big diphtheria vine that's fifty-one years old.
I like the quinzy border 'round the wild delirium bed
But the annual phlebitis, I fear, is almost dead.—M.M.D.

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BIBLIOGRAPHY

Joslin, E. P. et al: Treatment of Diabetes Mellitus—8 Ed., Phila., Lea & Febiger, 1946—P. 241, 247.

Duncan, G. G., Carey, L. S. & Hudson, M. T.: Medical Clinics of North America—Phila., W. B. Saunders Co., 1949—P. 1538.

Lowsley, O. S. & Kirwin, T. J.: Clinical Urology — Vol. 1, 2 Ed., Balt., Williams & Wilkins, 1944—P. 31.

Duncan, G. G.: Diseases of Metabolism—2 Ed., Phila., W. B. Saunders Co., 1947—P. 735, 736, 737.

Guidotti, F. P. & Winer, J. H.: The Military Surgeon — Vol. 94, Feb., 1944, No. 2.

Bacon, Melvin: The Journal of The Maine Medical Assn. — Vol. 38, July, 1947, No. 7—P. 167.

Stanley, Phyllis: The American Journal of Medical Technology — Vol. 6, No. 6, Nov., 1940 and Vol. 9, No. 1, Jan., 1943.

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1. Hansel, F. K.: Allergy of the Nose and Paranasal Sinuses. St. Louis, C. V. Mosby Co., 1936, p. 769.
2. Lands, A. M., Hoppe, J. O., Siegmund, O. H., and Luduena, F. P.: *Jour. Pharmacol. & Exper. Therap.*, 95:45, Jan., 1949.
3. Luduena, F. P., and Anancnko, E.: *Jour. Allergy*, 20:434, Nov. 1949.

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